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# THE BUTTERFLIES AND MOTHS OF KENT

BY

J. M. CHALMERS-HUNT, F.R.E.S.  
1968

VOLUME II  
HETEROCHERA  
(SPHINGIDAE - PLUSIIDAE)



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## P R E F A C E

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THE present volume contains the Sphingidae, Notodontidae, Thyatiridae, Lymantriidae, Lasiocampidae, Bombycidae, Saturniidae, Drepanidae, Arctiidae, Noctuidae, Hylophilidae and Plusiidae. The total number of species in these Families pertaining to Kent is 438, of which 406 are accepted without reserve. Of these 406, 295 are natives or suspected natives, 52 are residents or residents reinforced by immigration, 52 are immigrants or suspected immigrants, and 6 are species that have become extinct. Of the remaining 31 species, 21 are placed within the reservation of square brackets as of somewhat doubtful status, and 11 are treated as inadmissible.

In the next volume there will be a departure from the system of nomenclature and classification hitherto adopted. Thus, Volume 3 will contain the Geometridae, for the classification of which, Mr. D. S. Fletcher (British Museum, Natural History), well-known as a leading specialist in this group, has kindly permitted me the use of his manuscript list of this portion of the new edition of Kloet and Hincks "Check List of British Insects".

Finally, I wish to express my deep appreciation and thanks to all those who have so liberally helped me in one way and another in this and the preceding volume. Owing to the nature of the work, however, and the fact that the number of its contributors is likely to increase, I propose awaiting its conclusion to give full acknowledgment of all help received, as I shall then know everyone whom I have to thank.

J. M. CHALMERS-HUNT.

West Wickham,  
10th February 1968.



**HETEROCERA****SPHINGIDAE*****Mimas tiliae* L.: Lime Hawk.**

Native. Parks, gardens, roadsides, etc.; on lime, elm, birch. Recorded from all divisions. Apparently not generally a plentiful species in rural districts, but is sometimes common in towns, for which it shows a decided preference, and is perhaps most frequent in the urban areas of north-west Kent.

D. F. Owen (*in litt.*, 1947) wrote that it was "extremely abundant at Lewisham, Lee, Kidbrook, Blackheath, Greenwich; the larvae or pupae being found on nearly every elm and lime"; and added that he took with ease sixty pupae from beneath trees at Lewisham and Blackheath during the winter of 1946-47. West (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1918-19: 69) stated that many years previously, pupae were very common at the foot of oaks in Greenwich Park.

The larvae have been mostly found on lime and elm. At Petts Wood, A. M. Swain records that in addition to lime, he has also found it there on birch. Tutt (*Br. Lep.*, 3: 408) states that "the larvae appear usually to feed high up in large elm trees in Kent, and hence are rarely observed until they descend for pupation".

It is on record that the moth occasionally assembles in fair numbers; thus, Carter (*Entomologist*, 33: 202) wrote that he witnessed at Bexley Heath, in 1900, the assembling of twenty-one ♂♂ to a fresh ♀, between 9 and 9.30 p.m., on May 17-23.

**VARIATION.**—Very variable. Among my series from Kent are the following striking abs.: *brunnea* Bartel, ♀, 1925; *centripuncta* Clark, three; *pallida-centripuncta* Tutt, one, 1919 (C.-H.).

The following abs. from Kent (many of the examples of which are bred) are in R.C.K. :—*pallida* Tutt; *roseotincta* Schawerda; *atroviridis* Lenz; *virescens* Tutt, "with normal markings"; *clara* Closs; *suffusa* Clark; *rufobrunnea* Lenz; *brunnea* Bartel; *atrobrunnea* Gehlen nec Lenz; *brunnea* Bartel + *suffusa* Clark; *roseotincta* Schawerda, "with brown band"; *discifera* Closs; *discifera* Closs, with "orange hindwings"; *rubra* Cockayne, holotype (*Ent. Rec.*, 65: 33); *constricta* Gillmer; *brunnea* Bartel + *constricta* Gillmer; *constricta* Gillmer, with "red brown hindwings"; *constricta* Gillmer, with "orange hindwings"; *transversa* Jordan; *brunnea-transversa* Tutt; *pallida-transversa* Tutt; *bimaculata* Gillmer; *bipunctata* Clark; *pallida-bipunctata* Tutt; *colon* Gillmer; *bipunctata* Clark, with "orange hindwings"; *maculata* Wallengren; *costipuncta* Clark; *pallida-costipuncta* Clark; *centripuncta* Clark (= *ulmi* Bartel); *pallida-centripuncta* Tutt; *brunnea-centripuncta* Tutt; *semicentripuncta* Bünge-Billwarder; *semicentripuncta* Bünge-Billwarder + *brunnea* Bartel; *semiobsoleta* Tutt; *obsoleta* Clark; *pallida-obsoleta* Tutt; *virescens-obsoleta* Tutt; *brunnea-obsoleta* Tutt; *diluta* Cockayne, holotype, allotype, and paratypes (*Ent. Rec.*, 65: 33). Also the following:—one somatic mosaic; two pathological examples; one example with "symmetrical deficiency of nervures: 3 nervures missing in each wing"; one gynandromorph, "East Kent, v.1952, L. W. Newman"; and numerous examples with "asymmetrical markings".

A number of other abs. and abnormal specimens have been recorded (cf. Tutt, *Br. Lep.*, 3: 405; *Proc. S. Lond. ent. nat. Hist. Soc.*, 1894:

50, 1911-12: 44, 1919-20: 62, 1942-43 (2): 37, 1955: 35).

FIRST RECORD, 1856: Ramsgate (Powell, *Ent. week. Int.*, 1: 196).

**Laothoe populi** L.: Poplar Hawk.

Native. Woods, gardens, lanes, marshes, etc.; on poplars, sallow, alder. Found in all divisions, and in point of numbers, probably the commonest of the Hawkmoths.

What may be regarded as a partial second brood occurs fairly often in August, such specimens having been noted for example in 1868, 1873, 1886, 1887, 1898, 1899, 1917, 1918, 1933, 1937, 1938, 1949, 1952-57. The latest date is of one taken in an m.v. trap at Ham Street, on September 1, 1957 (de Worms, *Entomologist*, 91: 152). Stainton (*Zoologist*, 1089) records one at Lewisham, on April 30, 1845, an early appearance; but a much more extraordinary occurrence is of a ♀ taken at light near Shooters Hill, during the last week of January 1922 (Stanton, *Entomologist*, 55: 111).

The larva has mainly been found on various species of poplar. It has been noted on black and Lombardy poplar in the Rochester district (Chaney (1884-87)); on poplar, aspen, and sallow, at Petts Wood (A. M. Swain); on aspen at Brasted (R. M. Prideaux), and Stansted (F. T. Grant); and on "most poplars, willows and sallows" in the Lewisham district (D. F. Owen). Taylor (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1948-49: 47) records the finding of a larva in Kent, feeding on alder.

VARIATION.—West (in Tutt, *Br. Lep.*, 3: 468) has noted ♂♂ "frequently very rosy in tint", in the Lewisham and Greenwich districts; and D. F. Owen states that at Lewisham, "decidedly pink ♀♀, are not uncommon".

Hawkins (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1925-26: 60) exhibited a ♀ ab. *pallida* Tutt, bred Herne Bay. I have a ♂ ab. *pallida* Tutt, bred New Cross, May 18, 1917, ex H. J. Turner coll.; also three ♀♀ ab. *rufescens* Selys, from Bexley (C.-H.).

The following abs. from Kent, of both sexes unless otherwise stated (many of which are bred specimens), are in R.C.K.:—*rufescens* Fuchs; *rufa* Gillmer, ♀♀; *rufo-diluta* Gillmer, ♀♀; *pallida* Newnham; *ferruginea-fasciata* Gillmer, ♂♂; *tremulae* Bork.; *violacea* Newnham; *salicis* Holle; *albida* Cockayne, holotype ♀ (*Ent. Rec.*, 65: 33); *angustata* Closs, ♂♂; *grisea* Gillmer, ♂; *depupilla* Silbernagel. Also, one pathological example, and numerous gynandromorphs.

Cardew (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1910-11: 96; *Entomologist*, 42: 159) records a halved gynandromorph, bred from Dover larva, 1909.

FIRST RECORD, 1834: Mr. Dale "observed one in Mr. Leplastrier's collection which had no red on the base of the underwings; it was found near Dover" (Curtis, *Br. Ent.*, 482).

**Smerinthus ocellata** L.: Eyed Hawk.

Native. Woods, marshes, orchards, gardens, osier beds, waste places, etc.; on apple, willow, sallow, aspen, poplar, "wild plum". Found in all divisions.

A partial second generation may occasionally occur. W. L. Rudland took a single specimen in his m.v. trap, at Willesborough (div. 12), on September 10, 1954; and A. M. Morley has three, taken in the Folkestone district, August 17 and September 1 1952, August 22 1955.

In its early stages, the species has occasionally been noted in extreme abundance. For example, B. G. Chatfield states that in 1951, it was a pest on one farm at Hawkhurst (div. 14), where it completely defoliated young apple trees; D. F. Owen notes that in 1946, he found ova very numerous on sallows growing on bombed sites at Lewisham; and Tutt (*Br. Lep.*, **3**: 432) records that the larvae were exceedingly abundant on the sandhills at Deal, Harding alone having taken "26 dozen" there in 1860.

The larva most frequently occurs on apple (both crab and cultivated) and various *Salix* spp. It has also been found on aspen at Petts Wood (A. M. Swain); on poplar at Folkestone (A. M. Morley); and Fenn (*Diary*) records that in a lane at Lee, August 23, 1891, he found a full-grown larva feeding on "wild plum".

VARIATION.—A specimen from Lewisham "with the ground colour unusually pale, giving the insect a particularly bright appearance", is recorded by Adkin (Tutt, *Br. Lep.*, **3**: 426). One, conforming to this description, taken by A. G. Peyton, at Ham Street, June 13, 1935, is in my coll. (C.-H.).

Tutt (*Ent. Rec.*, **13**: 163) records a ♂ ab., bred by L. W. Newman, June 2, 1900, from Bexley Woods, which became the holotype of *pallida* Tutt.

The following abs. are in R.C.K.:—*flavescens* Newman, ♂, bred 1899, from Bexley wild larva, L. W. Newman; *kainiti* Knop, ♂, bred Bexley, 1913; *trans. ad kainiti* Knop, several from Kent; *pallida* Tutt, numerous from Kent. Also several pathological examples.

HYBRIDISATION.—Hybr. *hybridus* Stephens (*S. ocellata* ♂ × *L. populi* ♀). There is no record of such a cross in nature in Kent to my knowledge, but in R.C.K. are numerous bred examples labelled from Kent, including several intersexes.

FIRST RECORD, 1857: Near Ashford (Russell, *Ent. week. Int.*, **3**: 19).

### **Acherontia atropos** L.: Death's-head Hawk.

Immigrant. Potato fields, gardens, etc.; on *Solanum tuberosum*, *Lycium barbarum*, *Jasminium* sp., *Ligustrum vulgare*, "scarlet runner beans". Recorded from all divisions, but mostly observed coastally in east and north-east Kent.

The species appears almost annually<sup>1</sup>, but only in certain years has it been noted plentifully, and the great majority of those taken have been in either the larval or pupal stage. Very occasionally, it has occurred in great abundance, as was the case at Margate in 1846, when the larvae were so numerous that they were collected as food for chickens (Stevens, *Proc. ent. Soc. Lond.*, 1846: clvi). In 1858, at Ashford, "upwards of one hundred larvae" were found (Russell, *Ent. week. Int.*, **4**: 157); and in 1933, over fifty pupae were received that had been dug up from one small potato field at Reculver (Bowes, *Entomologist*, **67**: 59). In 1905, "one collector bought and sold over a thousand pupae, dug up in Thanet" (Barrett, *Entomologist*, **40**: 14); and A. G. Peyton told A. M. Morley that in one year, in or about 1905, he himself collected some 300 larvae in the Ramsgate area.

<sup>1</sup>The records for 1929-61, inclusive, show that the species was observed every year in Kent, except in 1936 and 1940.

Undoubtedly the chief foodplant in Kent is potato (*S. tuberosum*). The larva has also been found on Tea-tree (*L. barbarum*), at Folkestone (Ulyett, *Rambles of a Naturalist Round Folkestone*, 9); on "scarlet runner beans", at Wye (Efflatoun, *Entomologist*, 50: 284); and on "wild privet" (*L. vulgare*), upon which one was found feeding on Romney Marsh, in 1945 (Sankey, *Ent. mon. Mag.*, 81: 238). It has also been found on Jasmine; Miss Clements, of the Dene, Hythe, having found twenty larvae feeding on this in her garden in September 1938 (A. M. Morley).

The imago is occasionally observed at light and at rest on walls; and a boatman at Dover told A. M. Morley, c. 1935, that he often found them resting on the sails of boats drawn up by the harbour. There is a record, too, of one that had flown into a cottage bedroom at Hawkinge, one night in 1929, to the great alarm of the occupants, who thought it was a sign of death (W. O. W. Edwards, *teste* A. M. Morley). The insect has also been found "floating in on the tide", at Joss Bay, Broadstairs (H. C. Huggins); and a pair were noted *in cop.* at Reculver in June 1933 (A. J. L. Bowes). S. F. P. Blyth was shown one, which had been taken in a beehive, at Chislehurst, c. 1895; and H. E. Hammond mentions one that he found in his garden at Shoreham in 1912, "freshly emerged by a Tea-tree". A freshly emerged specimen with wings not yet expanded was found crawling up a sapling at Westwell in 1950 (P. Cue, *teste* E. Scott).

**VARIATION.**—The following abs. are in R.C.K.:—*intermedia* Tutt, one, E. Kent, and two, bred Herne Bay, 1933; *imperfecta* Tutt, two, bred Herne Bay, 1933. Also, one pathological example, N. Kent, 1902.

**FIRST RECORD**, 1811: October 11, 1811, "Death's-head moth found at Gravesend" (Arnold, *Robert Pocock*, 51).

#### **Herse convolvuli** L.: Convolvulus Hawk.

Immigrant. Potato fields, gardens, etc. [on *Convolvulus arvensis*]. Recorded from all divisions, though mainly from coastal areas.

The imago is noted most years<sup>1</sup>, usually in small numbers, but occasionally plentifully. The vast majority have occurred in August and September, it is seldom noted in July, and still less often in June. In 1948, one was taken at Folkestone as early as May 20 (A. M. Morley), the only occurrence for this month that I can trace; and in 1926, one was taken at Gravesend on November 23 (Grant, *Ent. Rec.*, 39: 12), a remarkably late date.

There are a few records of the moth having been witnessed in abundance by certain observers in the exceptionally good years. Thus, Westwood (*Proc. ent. Soc. Lond.*, 1847: vi) stated that near Canterbury (in 1846), it "had been so abundant that a friend of his had captured as many as five in his net at once"; and Stonestreet (*Ent. week. Int.*, 10: 187) records that in 1859, at Dover, he himself observed as many as seventy imagines. In 1875, sixty were taken in one garden at Birchington (Bird, *Entomologist*, 10: 20); and A. M. Morley (*in litt.*) writes that in 1929 or 1930, he met an entomologist at Sheerness, who told him that some years earlier he had in one evening seen eighteen

<sup>1</sup>The records for 1930-61, inclusive, show that the species was observed every year in Kent, except in 1932, 1936-37, 1939-42, and 1954.

*convolvuli* flying along the Sheerness canal.

The habits of this species are quite different from those of *A. atropos*: it does not seem to breed here so often, and the larva and pupa are seldom found. Most of the larvae and pupae that have occurred were in potato fields. Newman (*Entomologist*, **8**: 274) records that in 1875, a pupa was dug up at Deptford; and Bird (*Entomologist*, **10**: 20) states that on October 17, 1876, a pupa was dug at Birchington, and that "wild convolvulus grew amongst the potatoes where it was found". A. M. Morley (*in litt.*) writes that a full-fed larva of the brown form was found on lettuce, though not presumably eating it, in Folkestone, on July 23, 1952. (For the few other records of the occurrence in nature in Kent of the larva and pupa of this species, cf. Tutt, *Br. Lep.*, **4**: 343-345.)

As a fair indication that *convolvuli* occasionally survives here to produce a generation, Hawkins (*Entomologist*, **64**: 162) records that in 1930, on the authority of W. H. Storey, a ♂ was found "clinging to herbage on rough ground above Broadstairs"; adding that there was a lot of convolvulus near the place of capture, and that the insect was observed to excrete its meconium.

FIRST RECORD, 1828: Dover; Margate (Stephens, *Haust.*, **1**: 120).

### **Sphinx ligustri** L.: Privet Hawk.

Native. Gardens, hedgerows, parks, bushy places on chalk downs, wood and copse borders, etc.; on privet, lilac, *Viburnum lantana*, *V. opulus*, ash, holly, snowberry, *Lonicera*, "*Spiraea van-houstii*". Found in all divisions.

"Generally distributed, common in some places" (*V.C.H.* (1908)).

This is not usually a very plentiful species, but appears to be well distributed, and of regular occurrence. B. G. Chatfield, however, states that at Hawkhurst, of all the Hawkmoths, it is only exceeded numerically by *L. populi*; and E. Evans observes that at Petts Wood, it is probably the commonest Hawkmoth at light. A. M. Morley writes that without looking for it especially, he has found the species in one stage or another in every year except 1941, from 1929 to 1961; and has noted the moth every year at light from 1951, but never more than two at a time in the trap. Owen (*in de Worms, Lond. Nat.*, 1953: 111) gives it as "scarcer in recent years in North Kent"; but no supporting evidence is included with this statement.

The larva has been frequently found on privet<sup>1</sup>; and this is probably the principal foodplant, at least in Kent. At Broad Oak, I have twice taken full-grown larvae feeding on lilac, September 19, 1948, September 4, 1951 (C.-H.). It has been found on *Lonicera*, at Folkestone (Cross, *Entomologist*, **84**: 23); on holly, at Folkestone, 1954 (A. M. Morley), and at Brasted (R. M. Prideaux); on *Spiraea van-houstii*, at Hartley (Welch, *Entomologist*, **64**: 52); twice on *Viburnum lantana*, on Folkestone Downs (A. M. Morley); on *V. opulus* [at Wye] (Efflatoun, *Entomologist*, **50**:

<sup>1</sup>The larva seems mostly to have been found on *Ligustrum ovalifolium*, the introduced species with elliptic-oval to elliptic-oblong leaves, and only occasionally on *L. vulgare*, the native common privet with small lanceolate leaves, which is now nearly supplanted for hedging by the above. Indeed, at the present time the only positive evidence I have of it on the latter plant, is of one found on this in Folkestone Warren by A. M. Morley in 1948.

284); on ash, between Ebbsfleet and Minster, September 22, 1915 (H. G. Gomm); two on snowberry, at Folkestone, September 8, 1959 (A. M. Morley), and nine on this at Dartford, 1946 (B. K. West). A. M. Morley (*in litt.*) writes that on August 7, 1952, he visited a garden at Cheriton, where he saw a row of small ash trees about 5 ft. high, which were almost defoliated by the larva of this species; there were only four larvae still feeding, but he was told that there had been many more; the same correspondent states that, in 1960, a neighbour of his, Mrs. Chadwick, informed him that she recently found thirteen large *ligustri* larvae on her privet hedge, which is about 20 ft. long.

**VARIATION.**—The following abs. are in R.C.K.:—*intermedia* Tutt, two, Folkestone, 1924, one, N. Kent, 1939; *pallida* Tutt, N. Kent, one, 1927, one, 1939; *subpallida* Tutt, numerous from Bexley and "North Kent"; *rosacea* Rebel, N. Kent, one, 1920, one, 1922; *incerta* Tutt, Bexley, two bred 1912; *brunnea* Tutt, Bexley, one bred 1912; ab. "forewings normal hindwings pale", two from Kent; ab. "forewings pale hindwings normal", Bexley, one bred 1915; ab. "grey median area", Bexley, one bred 1912; ab. "median banding reaching costa", N. Kent, bred 1945. Also, two examples with spiral segmentation, one, N. Kent, 1939, one, Bexley, bred 1947.

A full-grown larva with two horns, "the second one directly beneath and about an eighth of an inch lower than the normal one, and only about a third as long", was found at Folkstone, in 1947 (Cross, *Entomologist*, **84**: 23).

**FIRST RECORD,** 1828: Darenth (Stephens, *Haust.*, **1**: 121).

### **Hyloicus pinastri** L.: Pine Hawk.

Suspected resident<sup>1</sup>. Woods, etc.

The more recent records suggest that the species may be breeding in areas in Kent situated near the borders of Surrey and Sussex, consequent upon its gradual range extension eastwards from Dorset during the past thirty years<sup>2</sup>.

1. West Wickham Wood, one taken off paling, May 26, 1884 (Watkins, *Ent. mon. Mag.*, **21**: 34).

4. Deal\*, one, sometime between 1874 and 1876, which had "graced a baker's pump" (Carrington, *Entomologist*, **10**: 6).

5. Westerham, one taken by R. C. Edwards, at light at his house in 1952 (R. C. Edwards).

6. [Halling] one† in Rochester Mus., labelled "caught by Stephen Foreman of Halling about 1920. Rare in Kent" (C.-H.).

[8. Folkestone district.—Listed by Hills, in Walton, *Folkestone and the Country Around* (pub. 1925), but without particulars.]

12. Ham Street.—William Stickles, the keeper, showed me one† that he took off a pine trunk in Burnt Oak Wood, about 1930 (C.-H.)<sup>3</sup>.

<sup>1</sup>Some of the older records, however, suggest that it may also be a casual adventive from abroad

<sup>2</sup>Since 1948, it has repeatedly occurred within a few miles of the county boundary, as for example at Croydon, in 1949 (*Ent. Rec.*, **61**: 94), Shirley in 1951 (*Ent. Gaz.*, **2** (4): 267), Selsdon in 1953 (T. L. Barnett), all in Surrey; and at Camber, Sussex, in 1955 (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1955: 24).

<sup>3</sup>This is the one mentioned in Scott (1950).

13. Tunbridge Wells, one taken by L. R. Tesch, off a sycamore trunk about 100 yards within the county boundary, end of June 1954 (L. R. Tesch).

[("Kent" (Reid, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1958: 38) is erroneous (W. Reid, *in litt.*.))]

FIRST RECORD, c. 1875: Deal (Carrington, *loc. cit.*).

**Celerio euphorbiae** L.: Spurge Hawk.

Immigrant. Gardens, waste places, etc.; [on *Euphorbia amygdaloides*].

Altogether, there are records of about a dozen examples alleged to have been taken in Kent, but it is suspected that several of these were importations, and that a few others were incorrectly determined. The number of apparently well authenticated captures is very small, and in not a single case are all the circumstances known.

The earliest reference<sup>1</sup> to *euphorbiae* in Kent appears to be that of Tylden (*Entomologist*, 1: 204), who states that he took a specimen at Sevenoaks, but does not give date of capture or circumstances. Subsequently, it was recorded as follows:—1889: Minster [Thanet], one bred from larva, taken July 10, 1889, imago emerged, June 12, 1890† (H. G. Gomm coll.). 1900: Dover, larva, 1900, imago emerged, 1901† (F. A. Small coll.). 1902: Sevenoaks, one†, labelled in E. A. Cockayne's handwriting, "Sevenoaks, 1902, C. Holmes". Bred from a larva found at Sevenoaks by Mrs. Holmes, wife of the President of the Pharmaceutical Society, and given by her to me, E.A.C." (R.C.K.). c. 1902: Greenhithe, one taken by A. B. Farn, "freshly emerged on his front door knob" (Kershaw, *Ent. Rec.*, 68: 154, and *in litt.*). 1937: Folkestone Warren.—"1937. Professor Whitehouse wrote to me saying that during the summer a visitor from Birmingham was attracted by his dog's barking at two caterpillars in the Warren. The visitor gave them to him, and from them he bred a ♀ *euphoribae*. Whitehouse did not say on what plant they were feeding, but I have no doubt that it was on a good sized spurge (presumably *Euphorbia amygdaloides*) that grows freely on the near end of the Warren" (A. M. Morley *in litt.*). This specimen, though the two statements disagree as to its sex, was apparently lot 164, described in Glendining's catalogue of the sale on November 16, 1943, of the B. Whitehouse coll. as, a "superb male, bred October 3, 1937, from a larva found at Folkestone, Kent, at the end of July (Beckwith Whitehouse)" (C.-H.).

[Deal (Coverdale, *teste* Tutt, *Br. Lep.*, 4: 241). Dover and Dartford (Tutt, *Br. Lep.*, 4: 241). Deal, two, 1888 (R.C.K.). Lamberhurst, one, taken June 1908 (E. Pitt-Pitts, *teste* E. D. Morgan in Given (1946)). Sandhurst, a larva found on a fir-tree, where spurge grows, autumn 1932, imago emerged April 16, 1933, but released before determination (G. V. Bull *per* Rothamsted; Dannreuther, *Entomologist*, 66: 233).]

FIRST RECORD, 1841: Sevenoaks (Tylden, *Entomologist*, 1: 204).

<sup>1</sup>In 1778, Harris (*Aurelian*, 88) introduced the species as British, on the strength of a larva taken at Barnscray, near Crayford, Kent, but according to Stephens (*Haust.*, 1: 126) the larva was that of *C. galii* (q.v.).

**C. galii** Rott.: Bedstraw Hawk.

Immigrant. Coastal sandhills, gardens, shingle beach, waste places, etc.; on *Galium verum*, *G. mollugo*. Recorded from all divisions, except

5, 10, 14, but mostly from the east coast, and especially from the coast of div. 4.

The records show a total of some 450 *galii* found in Kent, of which about 400 were larvae. In 1888, approximately 270 individuals were taken (including some 23 imagines), the largest number ever recorded during any one year. During the present century, *galii* has been noted much less frequently, with a total of but nine specimens, including one only in 1928 for the whole period 1900 to 1948.

The earliest known occurrence appears to be that of a larva taken on "some marshy ground at Barnsley near Crayford" (div. 2), and erroneously recorded by Harris (1778, *Aurelian*, 88) as *C. euphorbiae*.

The species has been subsequently noted as follows:—1846: Dunkirk, flying over *Verbena* in a garden (Horsley, *Zoologist*, 1514). 1847: Rainham, September 1 (Longley, *Zoologist*, 1985). 1854: Between Kingsdown and St. Margaret's Bay, July 22 (Thorne, *Zoologist*, 4526). 1855: Deal, three larvae (Harding, *Ent. week. Int.*, 1: 116, 132, 151); two, bred from larvae found by F. Smith (Stevens, *Proc. ent. Soc. Lond.*, 1856: 22; Syme, *Ent. mon. Mag.*, 2: 6). 1856: Darent Wood, August (Mercer, *Ent. week. Int.*, 1: 166). Deal, about two dozen larvae, August-September (Syme, *Ent. mon. Mag.*, 2: 6). 1857: Lewisham, August 27 (Stainton, *Ent. week. Int.*, 2: 182). Deal and Kingsdown, larvae, September-November, including one with some 20-30 whitish "ichneumon", ova attached to the skin (Syme, *Ent. week. Int.*, 3: 172, *idem*, *Ent. mon. Mag.*, 2: 6). 1858: Deal, three larvae, early October (Syme, *Ent. mon. Mag.*, 2: 6). N.d.: Folkestone district (English's *Guide to Folkestone* (1859), edit. S. J. Mackie).

1859: Tunbridge Wells, July (Challis, *Ent. week. Int.*, 6: 147). Gillingham, August 29 (Chaney (1884-87)). Charlton, a larva, September (Potter, *Ent. week. Int.*, 7: 26). Near Dover, about 36 larvae, on *G. verum* (Rogers, *Ent. week. Int.*, 6: 163). Deal, one "flying in hot sunshine", July; ten larvae (Harding, *Ent. week. Int.*, 6: 140, 171, 196); about 40-50 larvae, August-September (Syme, *Ent. mon. Mag.*, 2: 6).

1862: Deal, three larvae, end of August (Syme, *Ent. mon. Mag.*, 2: 6). 1864: Folkestone, a larva, on *G. verum* (Meek, *Ent. mon. Mag.*, 1: 189) ("Larva on Bedstraw in Warren; September" (Knaggs (1870)), may be based on Meek's record). 1868: Deal, one (Harding, *Entomologist*, 4: 118). 1870: Gravesend neighbourhood, larvae (Button, *Entomologist*, 5: 221). Plumstead, one, August (Barns, *Entomologist*, 5: 265).

1888: Kingsdown, July 20, 24 (W. G. Sheldon, *teste Tutt, Br. Lep.*, 4: 198). Folkestone, July 29 (Austen, *Entomologist*, 21: 231). Ramsgate neighbourhood, two larvae, September 13, and an imago earlier (Buckmaster, *Entomologist*, 21: 257). Dartford, August 4 (Youens, *Entomologist*, 21: 231). Maidstone, a larva, September 8 (Foster, *Entomologist*, 21: 273). Gravesend, August (Gostling, *Entomologist*, 22: 112). St. Margaret's Bay, seventeen flying over *Echium vulgare*, July-August (Williams, *Entomologist*, 21: 230; *idem*, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1888-89: 61). St. Margaret's Bay to Pegwell Bay, being distributed over a considerable area, and not only near the sea line, but in places five or six miles inland, altogether between August 30 and the end of September, Gibb, Porritt, and Tugwell and his family took 196 larvae, mostly feeding on *G. verum*, but a few also on *G. mollugo* (Tugwell, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1888-89: 66).

Deal [Kingsdown], larvae very plentiful. "I found fifty one morning in about a couple of hours on a bank not more than a hundred yards long" (Meek, *Ent. mon. Mag.*, **25**: 111). 1889: Dover, a larva (Webb, *Young Nat.*, **10**: 231). 1890: Dover area (Webb (1891)). 1891: Swanley (Milton, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1892: 23). [1892?]: Deal, two, bred, 1893, Tugwell, ex H. J. Turner coll. (C.-H. coll.). (There is no mention of the date of the finding of the larvae from which they were presumably bred (C.-H.)) [1897?]: Deal, two bred by J. W. Tutt, January 1, 28, 1898 (Br. Mus. (S. Kensington)). N.d.: One taken in Maidstone, and given to H. Lamb by S. Brent in 18— (Maidstone Mus.).

1928: Gillingham, July 5 (Jones, *Entomologist*, **61**: 234). 1949: Tonbridge, a dead ♂ found on the pavement in the town in August (H. E. Hammond). 1955: Otford, two at m.v., July 28, 29 (Manley, *Entomologist*, **88**: 210). Ham Street, July 29 (Richardson, *Entomologist*, **88**: 262). Sandgate, near Folkestone, August 15 (Fuller, *Ent. Rec.*, **67**: 235). Pinden, near Dartford, ♀, August 20 (E. J. Hare). Greatstone, near Dungeness, August 20 (G. Bransby, *teste* French, *Entomologist*, **89**: 177). 1957: Ashford, ♀, at m.v., July 24 (P. Cue).

VARIATION.—Tugwell (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1888-89: 128-129) exhibited two specimens bred from Deal larvae, which formed the basis of Tutt's ab. *grisea*, and are chiefly characterised by having much of the normal colouration, especially the dark olive-green markings, replaced by dull grey. Tutt (*Br. Lep.*, **4**: 172) stated that the scales in these examples appeared to be wanting in the ordinary pigment, and the scales themselves suggested immaturity; he added that other semidiaphanous examples appeared among the later-bred of Tugwell's specimens, and that these were even more extreme.

In R.C.K. is the holotype of ab. *lata* Tutt; it is labelled "larvae Walmer and Deal, Sept. 11.20.1888, imagines forced Jan.-Feb. 1889".

Tugwell (*Ent. mon. Mag.*, **25**: 284) mentioned that one of those, a ♀, taken at St. Margaret's Bay by Williams and Oswald in 1888, measured  $3\frac{3}{8}$  inches.

FIRST RECORD, 1778: Barnscray, near Crayford (Harris, *Aurelian*, 88; as *C. euphorbiae*, in error (Stephens, *Haust.*, **1**: 126)).

#### **C. livornica** Esp. (*lineata* Fab.): Striped Hawk.

Immigrant. Gardens, shingle beach, mangel-wurzel and potato fields, etc.; on *Galium mollugo*, *Antirrhinum majus*. Recorded from all divisions, except 5, 14; but has mostly occurred in east and north-east Kent.

Altogether about a hundred *livornica* have been noted in the county, of which some 30 were larvae. The largest number recorded for any one year was 30 in 1931, of which 26 were larvae.

1831: Bromley, one taken in July (Penny, *Mag. nat. Hist. J. Zool.*, **7**: 260). 1860: Lewisham, May 20 (Stainton, *Ent. week. Int.*, **8**: 58). 1862: Deal, May 6 (Harding, *Zoologist*, 8204). 1868: Deal, two; Walmer Castle, one (Leslie, *Entomologist*, **4**: 162). Dover, one in Br. Mus. S. Kensington, labelled "Gray, Dover, 1868, set by P.H.H." (C.-H.). 1869: Folkestone Warren, May 7 (Ullyett, *Qly. J. Folkestone nat. Hist. Soc.*, 1869 (3), 71). 1870: Folkestone Warren, May 26<sup>1</sup> (Knaggs, *Ent. mon. Mag.*, **7**: 40); Strood, August 20 (Farrow, *teste* Tutt, *Br. Lep.*, **4**: 164); Hunton, near Maidstone, August 23 (Greville,

*Ent. mon. Mag.*, **7**: 10); Sydenham, August (Etheridge, *Entomologist*, **6**: 196); Dover, October 2 (Eedle, *Entomologist*, **5**: 199). 1872: Ashford (Chittenden, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1899: 107). 1878: Strood, June 15 (Farrow, *teste Tutt, Br. Lep.*, **4**: 164). 1880: Greenwich (West, *Ent. Rec.*, **18**: 143). 1884: Sandwich, July 26 (Harbour, *Entomologist*, **17**: 272); Dover, September 18 (Webb, *Ent. mon. Mag.*, **21**: 109). 1887: Dover district (Webb (1891)). 1888: Dover district (Webb (1891)). 1892: Rochester, June 6 (Ovenden, *teste Tutt, Br. Lep.*, **4**: 164). 1895: Dover, September 14 (Webb, *teste Tutt, Br. Lep.*, **4**: 165). 1901: Northfleet, one "flew into a friend's window" (H. C. Huggins). 1904: Between Ashford and Wye, July 12 (Parry, *Entomologist*, **37**: 214); Dover, September 5 (Abbott, *Entomologist*, **37**: 265). 1906: Canterbury, June 5 (Small, *Entomologist*, **39**: 162); Sheerness, June 13 (Jacobs, *Entomologist*, **39**: 162); Dover, August 20 (South, *Entomologist*, **39**: 211), September 8 (Webb, *Entomologist*, **39**: 234). 1912: Dover, May 17 (Abbott, *Entomologist*, **45**: 183). N.d.: Southborough (div. 13) (Knipe (1916)). 1920: Dover, a larva found on some allotments, June 24, imago emerged September 28 (Abbott, *Entomologist*, **53**: 285). Sidcup, May 23 (Sutton, *Entomologist*, **53**: 190). 1931: Sittingbourne, May 27 (Philpott, *teste Riley, Entomologist*, **64**: 163). Kennington, near Ashford, ♀ and ♂ found on a fence, June 1 (Scott (1936)). Knockholt, one found in a hedge, June 6, by Miss Ruth Edwards (Gingell, *teste Riley, Entomologist*, **64**: 163). Ospringe, a larva found in a mangel-wurzel field, July 27 (Edmonds, *Entomologist*, **64**: 237). Monkton (div. 9), "in late July 1931, a lady living at Monkton found eleven larvae devouring her snap-dragons. She drowned six, but her son saved five and gave them to A. G. Peyton, who bred three or four moths" (A. M. Morley *in litt.*); one of these is in my coll. and is labelled as having emerged in September of that year (C.-H.). Dungeness, ten larvae found on *G. mollugo*, on July 23, by G. W. Wynn and A. J. Wightman (Wightman, *Ent. Rec.*, **43**: 143); a larva at night at rest on a tall grass stem, July 31 (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1931-32: 91); three larvae on bedstraw (Kettlewell, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1943-44: 17).

1943: Eythorne, some six or seven specimens at *Kentranthus rubra*, May 31-June 10 (Lipscomb, *Entomologist*, **76**: 172). Tonbridge, June 3 (Featherstone, *Entomologist*, **76**: 189). Bexley, ♀, at honeysuckle, June 8 (E. Dale, *per Rothamsted*). Gravesend, one on a boat, September (F. T. Grant). Tankerton, September 21 (Atkinson, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1946-47: 26). Folkestone, a larva found by D. Smith, in mid-August, crawling along in Dolphins Road, imago emerged September 27, recorded by D. Smith in Folkestone Herald (A. M. Morley) (the date 1945, given in *Entomologist*, **80**: 175, is erroneous (A. M. Morley); an imago found under the grating of a street drain in September by J. Wilson (A. M. Morley).

1945: Littlestone, July 12, six, flying along foreshore just above high tide mark, between 11 and 12 a.m. (N. H. Joy, *in litt.* to W. Dannreuther). 1946: Folkestone, ♂, put up from grass by the Lower Sandgate Road, and taken by A. Millar, July 26 (A. M. Morley). Folkestone Warren, one at light, July 30 (R. Fairclough, *teste A. M. Morley*). 1947: Tonbridge and Southborough (div. 13), mid-May, seven at flowers at dusk, including a ♂ which was captured (Tonbridge School Nat. Hist. Soc., *fide* Dannreuther, *Entomologist*, **81**:

112). Tunbridge Wells, a full-fed larva found in a garden, September 30, which successfully pupated (Tonbridge School Nat. Hist. Soc., *fide* Dannreuther, *loc. cit.*). 1949: Brook, June 5, one seen by C. A. W. Duffield (E. Scott, *per* Rothamsted). Ashurst near Tunbridge Wells, ♀, June 12 (Tubbs, *Entomologist*, **82**: 204). Hythe, one at light, August 21 (Cardew, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1949-50: 54). Pinden, one taken August 31 (E. J. Hare). Gillingham, ♀ in Rochester Mus., labelled in F. D. Welch's handwriting, "Found alive by W. E. Edwards of Gillingham, September 5, 1949, and presented by F.D.W." (C.-H.). 1950: Folkestone, ♂, May 10 (Morley, *Entomologist*, **83**: 166). 1951: Folkestone Downs, ♂, taken on grass by Binfield, September 12 (Binfield, *fide* A. M. Morley). 1952: Kingsnorth, ♀, March 9 (Sankey, *Ent. mon. Mag.*, **88**: 132). Sidecup, *livornica* "had recently been taken" (Anon., *Proc. S. Lond. ent. nat. Hist. Soc.*, 1952-53: 13, communicated August 13, 1952). 1955: Sevenoaks, July 29 (Greenwood, *Ent. Rec.*, **67**: 234). 1958: Shorne Ridgeway, one taken in m.v. trap, September 1 (Trundell, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1958, 18).

FIRST RECORD, 1831: Bromley, Kent, one taken in a garden in July 1831 (Penny, *Mag. nat. Hist. J. Zool.*, **7**: 260).

<sup>1</sup>This specimen, a ♂, was observed flying out at sea, and to drop directly it reached the shore. A somewhat similar instance of diurnal immigration in *livornica*, though even more remarkable is that witnessed by Norman H. Joy in 1945 (*q.v.*).

### **Hippotion celerio** L.: Silver-striped Hawk.

Immigrant. Gardens, etc.; on *Vitis vinifera*.

Altogether there are records of some forty *celerio* for Kent, mostly from the east and north-east of the County. During the present century, the species has been much less frequent, and since 1900, only nine individuals have been noted. In 1884, a number of larvae were found, and it is possible that in that year *celerio* survived here to produce a generation.

The earliest reference to *celerio* in Kent is that of Donovan (*Nat. Hist. Br. Insects*, **6**: 26), who gives Eltham (div. 1) as a locality. Over fifty years then elapsed before the next record, and the following is a chronological account of its subsequent occurrence.

1849: Folkestone, one found by a child in a garden on October 23, and exhibited (Douglas, *Proc. ent. Soc. Lond.*, 1849: 1xxxvi) (listed, but without date or details, in *English's Guide to Folkestone* (1859), edit. S. J. Mackie, which may refer to this record): 1852: Tenterden, September 16 (Beale, *Zoologist*, 3624). 1864: Canterbury, taken flying in a garden, by Mrs. Parry (B.P[iffard], *teste* Knaggs, *Ent. Ann.*, 1865: 109). 1865: Greenwich (West, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1910-11: 103). Dover, September (Harding, *Entomologist*, **4**: 163). 1869: Selling (Stowell, *Ent. Mon. Mag.*, **7**: 85, *Entomologist*, **5**: 165). 1872: Margate, September (Duncan, *Entomologist*, **6**: 412): Strood, September 12 (Farrow, (*teste* Tutt, *Br. Lep.*, **4**: 132); Strood, September 13 (Stapleton, *teste* Tutt, *Br. Lep.*, **4**: 132)). 1880: Sheerness, October 10 (Darley, *Entomologist*, **13**: 279); Faversham, December 1 (Yearsley, *Entomologist*, **14**: 115). 1884: Dover, seven or eight, also a lot of larvae found on vine by a man who thought they were *D. elpenor* and only kept two—these he bred (S. Webb, *teste* Fenn, *Diary*,

19.xi.1884). 1885: Folkestone Town, September (Cooper, *Entomologist*, **18**: 294); Near Ramsgate, two (Wood, *Entomologist*, **18**: 261) (Willson, *Entomologist*, **23**: 139, may refer). 1889: one, "St. Peters, 1889"†; one, "Ramsgate, 1889"†; both in J. P. Barrett coll. (C.-H.). 1892: Ashford, October 21 (Viggers, *Entomologist*, **25**: 289, *Ent. Rec.*, **3**: 256). 1894: S. Foreland Lighthouse, August (Fremlin, *Entomologist*, **27**: 349, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1894: 80). 1895: Dover, September (Webb, *Ent. Mon. Mag.*, **31**: 241, *Ent. Rec.*, **7**: 62). 1898: Southborough (div. 13), October (Shepheard-Walwyn, *Entomologist*, **32**: 95). 1903: Maidstone, November 9† (in Maidstone Mus.)<sup>1</sup>. 1913: Teston near Maidstone, October 6, Mr. Page† (Rowland-Brown, *Entomologist*, **52**: 277; in Maidstone Mus.). 1922: Chestnut Street near Sittingbourne (H. C. Huggins). 1923: Herne Bay, at light, September, Ian Harman (in R.C.K.). 1926: Longport Street, Canterbury, October 23† (F. A. Small coll.). 1935: Maidstone, October 10† (in Maidstone Mus.). 1938: West Wickham, September (Dale, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1938-39: 18); Maidstone, November 22, 1938, Miss Harrist (in Maidstone Mus.). 1952: Winget Wood, Strood, October 16 (Hambler, *Ent. mon. Mag.*, **89**: 3).

FIRST RECORD, 1797: "Mr. Latham, formerly of Dartford, . . . has a specimen which was taken at Eltham, in Kent" (Donovan, *Nat. Hist. Br. Insects*, **6**: 26).

<sup>1</sup>It appears that this specimen was referred to in *S.E. Nat.*, 1904: 50, and *Entomologist*, **52**: 277, but the particulars given in each case are at variance.

### Daphnis nerii L.: Oleander Hawk.

Immigrant. Gardens, etc.

Altogether there are records of eleven specimens, of which four require confirmation.

1833: Dover, one captured by a lady in her drawing-room about September 6 (Stephens, *Ent. Mag.*, **1**: 525). 1834: Curtis (1837, *Br Ent.*, 626) figures a ♀, which he states Mr. Leplastrier informed him was taken "by a poor man the latter end of September, 1834, near the pier at Dover". 1896: Stowting, one taken towards the end of July (Upton, *Entomologist*, **29**: 316). 1900: Yalding, ♀, taken by G. Wickham, September 18 (Reid, *Entomologist*, **33**: 305, *idem*, *Ent. Rec.*, **12**: 303). 1911: Chilmington near Ashford, one taken in autumn, by J. Diamond (Viggers, *Entomologist*, **45**: 209). 1916: Folkestone, one taken, August 30, by G. B. Oliver, at rest on a small poplar trunk, on the Lees undercliff (Oliver, *Entomologist*, **49**: 259). 1926: Chislehurst, one taken September 14, by S. F. P. Blyth, hovering over *Nicotiana affinis* (Blyth, *Entomologist*, **59**: 301).

[♂, in Dale coll., labelled as taken at Dover by Leplastrier in 1828 (Walker, *Ent. mon. Mag.*, **46**: 156). Dover, 1857 (Lucas, *The Book of British Hawk-Moths*, 117). Sydenham, one taken on a lamp, September 10, 1910, A. Noakes; in Joicey coll. (*Ent. mon. Mag.*, **46**: 263). Swanley, one, 1958 (Joseph, *Entomologist*, **91**: 191).]

FIRST RECORD, 1833: Dover (Stephens, *Ent. Mag.*, **1**: 525).

**Deilephila porcellus** L.: Small Elephant Hawk.

Native. Chalk downs and cliffs, heathland, shingle beach, coast sandhills, etc.; on *Galium verum*, *G. mollugo*, *Genista tinctoria*, *Chamaenerion angustifolium*. Recorded from all divisions; apparently seldom abundant.

The moth is mostly observed at flowers, particularly those of *Kentranthus ruber* and *Rhododendron*. It has also been noted at *Echium vulgare* at Folkestone (Knaggs (1870)), and St. Margaret's Bay (Reid, teste Tutt, *Br. Lep.*, **4**: 107); on *Silene nutans*, in Folkestone Warren, June 16, 1929 (A. M. Morley); and at Campion, at Sarre, 1941-44 (T. W. Gomm). It sometimes comes to sugar, and occasionally to light; at Dungeness, however, about forty were noted by me at m.v., by the Pilot Inn, on May 31, 1952, an abnormally large number (C.-H.).

The usual foodplant seems to be *Galium*. J. A. Parry found twelve larvae on *G. verum*, at Old Park, Canterbury (div. 3), 1947-48; F. T. Grant used to find it on this at Detling Hill (div. 7), c. 1895; and A. M. Morley found one in 1938, on Dover Hill, Folkestone, on *G. mollugo*. At Herne, in 1941, P. F. Harris found several larvae on Dyer's Greenweed (*Genista tinctoria*), from which he bred a number of specimens; at Petts Wood, the larva has been noted on "Willow Herb", by A. M. Swain; and a full-grown larva was taken by J. F. Burton, on a bombed site at Blackheath, on Rosebay Willow-herb (*C. angustifolium*), September 16, 1946.

VARIATION.—Tutt (*Br. Lep.*, **4**: 92) points out that Kent and Sussex examples "often have the transverse markings obsolete, the crimsoned, however, being well marked".

One of those that I have from Dungeness, May 31, 1952, appears to be an example of homoeosis. The pink band on the right forewing of this specimen extends from the apex for only half its normal length, the portion where it fails to the tornus being replaced by the normal deep yellow-ochreous ground (C.-H.).

The following abs. are in R.C.K.:—*indistincta* Tutt, three from Kent, including one bred one; *decolor* Cockayne, holotype, ♂, Sandwich, bred 1889, W. H. Tugwell (this appears to be the one recorded by Tugwell (in *Young Nat.*, **10**: 43, and *Proc. S. Lond. ent. nat. Hist. Soc.*, 1888-89: 129); the date, however, in *Ent. Rec.*, **65**: 81, is wrong); one, "costa bright crimson well developed", bred Kent, 1918.

FIRST RECORD, 1828: Birch Wood (Stephens, *Haust.*, **1**: 132).

**D. elpenor** L.: Elephant Hawk.

Native. Ditches, riverbanks, wet meadows, gardens, marshy places, bombed sites, etc.; on *Epilobium hirsutum*, *Chamaenerion angustifolium*, *Circeea lutetiana*, *Galium*, *Viola*, *Godetia*, *Fuchsia*, Vine, *Impatiens glandulifera*, *I. capensis*, *Menyanthes trifoliata*. Found in all divisions; fairly numerous.

A partial second generation may occasionally occur. Thus, Fenn (*Lep. Data MS.*) records one at light at Erith, August 13, 1879; A. M. Morley noted a ♀ at light at Hythe, August 8, 1956; and W. L. Rudland had one at m.v., at Wye, August 11, 1955.

The moth is perhaps most frequently observed at light; it has also been noted at *Kentranthus* and other flowers, at sugar, and on one occasion P. Cue saw it at exudation from an oak tree in Hoards Wood (div. 11).

The larva has mostly been found on Willow Herb (*Epilobium* and *Chamaenerion*) and *Fuchsia*. It has also been noted on *Viola*, in gardens at Faversham and Perry Wood (H. C. Huggins); commonly on Enchanter's Nightshade (*C. luteana*), in the City of Canterbury (J. A. Parry); on *Godetia*, at Maidstone (Morris, *Entomologist*, **74**: 70), and Petts Wood (A. M. Swain); on Vine, in gardens in the Rochester district (Chaney (1884-87)); often on *I. glandulifera*, in gardens at Tunbridge Wells (Given (1946)); three on *I. capensis* at Tonbridge (Beaufoy, *Bull. Amat. ent. Soc.*, 1955: **14** (178) 83); one on *Galium*, on Deal Marshes (Fenn, *Diary*, 6.viii.1867); and on *M. trifoliata*, at Anglesey Wood, Cranbrook, October 21, 1956 (D. Rabarts). Occasionally it is extremely plentiful, D. F. Owen having seen about 200 full-grown larvae on *E. hirsutum* and *C. angustifolium*, on a bombed site at Lewisham in July 1945 (Owen, *Ent. Rec.*, **61**: 55).

VARIATION.—Riley (*Entomologist*, **55**: 278) describes an ab., bred by C. H. Hards, from a larva taken at East Farleigh in 1910, as "remarkable in that the areas usually green are chocolate-coloured, the normal pink areas are pale dirty brown, and the basal and hind marginal areas of the hindwing are a darker dirty brown".

The following abs. are in R.C.K.:—*obsoleta* Tutt, one, Dartford, 1904; *clara* Tutt, one "Ex larva Deal, x.09, P. A. Cardew"; *cinerescens* Newnham, two, N. Kent, 1921, 1944; *pallida* Tutt, several, from various Kentish localities.

FIRST RECORD, 1856: Near Dover (Harding, *Ent. week. Int.*, **1**: 108).

#### **Macroglossum stellatarum L.: Humming-bird Hawk.**

Immigrant, appearing almost every year<sup>1</sup>. Rough flowery banks, gardens, waste places, etc.; on *Galium verum*, *G. mollugo*. Recorded from all divisions. Not uncommon most years in east coastal districts, and occasionally abundant as for example in 1928, 1934, 1945-47.

The larva usually occurs in small numbers; but in 1947, J. A. Parry found a phenomenal number during three weeks search in the neighbourhood of Canterbury, Bridge, and Barham, amounting altogether to some 200 examples, mostly at Old Park, Canterbury, and all on *G. verum*.

The larva has been repeatedly found on both *G. verum* and *G. mollugo* in East Kent, but apparently very seldom at all in West Kent. In 1947, however, I found a half grown larva on July 6 on *G. mollugo* at West Wickham (div. 1) (C.-H.); and Carr (*Entomologist*, **34**: 108) records that in 1900, at Lee (div. 1), thirteen larvae were taken on a small patch of *G. verum*.

It has been stated that the imago sometimes hibernates here. This may be so, but it is difficult to obtain actual proof, and the evidence in support of it is somewhat meagre. Barrett (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1916-17: 56) stated that at Margate, when *stellatarum* had been common there, he always expected to find a few hibernated in a large heated building; the same observer also records (in *Entomologist*, **34**: 21) that at Margate during October 1900, "six or seven fresh imagos have come into the house to hibernate". Marshall (*Entomologist*, **34**: 56) records one observed at Cranbrook, November 27, 1900; Scott (1950) notes that in the Ashford district, it "occasionally succeeds in hiber-

nating, if the weather is unusually warm"; and there is a record of the imago having been seen flying at Gravesend in December, January and February (Clifford, teste Tutt, *Br. Lep.*, **4**: 20, 27), but the year (or years) when this occurred is not given. A. M. Morley saw one on January 21, 1929, which was flying around the main room in a school at Whitstable; and on November 13, 1947, he saw one flying against the window of his study in Folkestone, which was still there on December 19, but was not seen subsequently.

**VARIATION.**—In ab. *subnubilu* Schultz, the tawny colour of the hind-wing is replaced by deep brown. I have seen three such examples: Canterbury, bred August 1946, Sandwich, bred 1928 (R.C.K.); Ramsgate, taken by J. W. C. Hunt (C.-H.).

Bower (*Ent. Rec.*, **11**: 344) records one taken at Sandgate, with alar expanse only 30 mm.

**FIRST RECORD**, 1818: "During two short visits at Dover, in August, 1818 and 1819, I observed it in great abundance in the winged state, and in June of the latter year, accompanied by the late Mr. Blunt, we found the larvae in profusion beneath the cliffs" (Stephens, *Haust.*, **1**: 134).

<sup>1</sup>The records show that *stellatarum* was observed annually in Kent from 1928 to 1961 inclusive, except in 1941, in which year it was perhaps absent.

### **Hemaris fuciformis** L.: Broad-bordered Bee Hawk.

Native. Wood borders and clearings, parks; on *Lonicera periclymenum*. Local.

1. Birch Wood (Douglas, *Entomologist*, **1**: 66). West Wickham (Douglas, *Entomologist*, **1**: 66); 1856 (Simson, *Ent. week. Int.*, **1**: 116); 1857 (Healy, *Ent. week. Int.*, **2**: 75); 1859 (Tibbs, *Ent. week. Int.*, **6**: 90); ♀, June 12, 1858, two ♀♀, four ♂♂, June 1, 1859 (H. Tompkins MS.). Shooters Hill, larva on honeysuckle, 1856 (Crewe, *Ent. week. Int.*, **1**: 123). West Wood, Shooters Hill, 1866 (W. West, in *Wool. Surv.* (1909)). Bexley district, common some years (L. W. Newman, in *Wool. Surv.* (1909)). Joydens Wood (C. Fenn, in *Wool. Surv.* (1909)). Sparrow Common, common, 1927 (W. V. D. Bolt) (F. D. Greenwood); [c.1938] (W. A. Cope). Keston, 1947-48, imagines and larvae numerous; June 21, 1947, thirty-seven larvae were noted, mostly young (D. F. Owen); one seen at Bugle flowers by E. I. M. Bird, in his garden, c.1948 (C.-H.).

3. West Blean Wood, one, May 29, 1866 (Fenn, *Diary*). West Blean and Church Woods, occasionally, c.1924 (D. G. Marsh). Blean Woods, not uncommon [c.1935] (A. J. L. Bowes).

6. Stanstead, larva on Honeysuckle, August 20, 1923 (F. T. Grant).

6a. Darent Wood (Stephens, *Haust.*, **1**: 136); 1859 (Harding, *Ent. week. Int.*, **6**: 75); 3 ♂♂, 2 ♀♀, May 29, ♀, June 8, 1859 (H. Tompkins, MS.); three, May 29, 1869 (Fenn, *Diary*); 1875 (West, *Ent. Rec.*, **18**: 143); formerly common, now rare (Tutt, in *Wool. Surv.* (1909)); several, 1912 (H. C. Huggins); one, May 11, 1912 (F. T. Grant); ova, larvae, imagines, in felled woodland, 1947-48 (D. F. Owen); one, May 17, 1948 (E. J. Hare). Greenhithe\*, May 31, 1859 (Fenn, *Diary*). Stone Woods, Greenhithe, June 25, 1863 (Fenn, *Diary*). Chattenden, 1899 (James, *Ent. Rec.*, **12**: 102); uncommon, 1902-06 (H. C. Huggins); May 26, 1923 (F. T. Grant).

7. Park Woods\*; Wigmore, not common (Chaney (1884-87)). Bredhurst Wood, never more than two or three on any one visit, first noted June 19, 1938, and again June 10, 1939, observed annually since, to 1954; Walderslade, June 1, 1940, June 10, 1944 (A. J. Woodcock). Westwell, two, c.1950 (E. Scott).

8. Folkestone\* (Ulliyett (1880)). Dover (Webb (1899)). Wye\*, several, May 25, 1904, J. P. Barrett (J. P. Barrett coll.). Near Canterbury\*, three, 1920-21 (F. A. Small coll.). Brook\* (C. A. W. Duffield). Bridge, c.1946 (R. Gorer). West Wood, one, taken by David Smith in 1947 (A. M. Morley). Penny Pot Wood, common, 1948 (J. A. Parry).

10. Sevenoaks, 1857 (Farren, *Ent. week. Int.*, 2: 17). Seal Chart, July 15, 1897 (Watts, *teste* Tutt, *Br. Lep.*, 3: 523).

11. Maidstone Cemetery, one, June 12, 1894, H. Lamb, in Maidstone Mus. (C.-H.). Maidstone (*V.C.H.* (1908)). Wateringbury, one, 1900, several, 1906 (E. Goodwin coll.). Mereworth, plentiful (W. A. Cope). Tonbridge, a larva, 1940 (H. E. Hammond). Hoads Wood, larvae and imagines, c.1953 (P. Cue); imagines, 1956 (W. V. D. Bolt).

12. Ham Street.—Sixty-three at Rhododendron and one at *Lychnis*, seen by A. W. Hughes, c.1930; two, May 25, 1929, ♀, June 8, 1930, one, June 6, 1932, two larvae on Honeysuckle, 1933-34, four imagines at Bugle, 1935; all in Orlestone Woods (A. M. Morley); May 20, 1940 (Bull, *Diary*). Birchett Wood, two, May 30, 1948; May 30-June 2, 1950, plentiful at Bugle at the sides of the road where the undergrowth had been cut back between Long Rope and Birchett Wood, roughly fifty seen, including two taken in the net at once (C.-H.); May 16, 1959 (Scott, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1959: 76). Bourne Wood, May 28, 1955 (Scott, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1955: 73).

13. Groombridge, July 9, 1888 (Blaber, *teste* Tutt, *Br. Lep.*, 3: 525). High Rocks, Tunbridge Wells, one or two (E. D. Morgan). Bedgebury Wood, one taken, c.1950 (B. G. Chatfield). Goudhurst, several in the garden at Mrs. Sinkins pinks, 1954-1955 (W. V. D. Bolt).

14. Tenterden, May 15, 1943 (Bull, *Diary*).

16. Park and Priory Woods, c.1952 (E. Scott). Sandling Park, stated by A. Hardy to have been seen by him here in 1947 (A. M. Morley).

FIRST RECORD, 1828: Darent Wood (Stephens, *Haust.*, 1: 136).

#### **H. tityus** L. (**bombyliformis** Esp.): Narrow-bordered Bee Hawk.

Native. Woods, marshes; on *Succisa pratensis*. Local. The records indicate that it is now mainly, if not entirely, restricted to div. 12.

1. Birch Wood (Anon., *Ent. Mag.*, 3: 309); pre. 1841 (Douglas, *Entomologist*, 1: 66). West Wickham, pre. 1841, "more abundant here than at Darent or Birch Wood" (Douglas, *loc. cit.*); ♂, June 1859 (H. Tompkins MS.). Sparrow Common, one, taken 1927† (W. V. D. Bolt).

3. West Blean Wood, one, June 1926 (D. G. Marsh).

4. Near Sandwich, a few in a marsh, 1865 (Harding, *Entomologist*, 3: 24). Sandwich, common (H. J. Harding, *teste* Tutt, *Br. Lep.*, 3: 538). Ham Marshes, Sandwich; very local (*V.C.H.* (1908)).

6. Cuxton\*, one, June 5, 1908 (Ovenden, *Ent. Rec.*, 21: 32).

6a. Darent Wood, taken in 1836 (Norman, *Ent. Mag.*, 4: 155); pre. 1841 (Douglas, *Entomologist*, 1: 66).

8. Dover district\* (Webb (1899)). Near Canterbury\*, one, 1920, three, 1921, seven, 1922, two, 1924 (F. A. Small coll.)†. [Penny Pot Wood, 1948, seen but not taken (J. A. Parry).]

10. Near Sevenoaks, 1857 (Farren, *Ent. week. Int.*, 2: 171).

11. Wateringbury, one, bred 1909 (Goodwin coll.). Hoads Wood (Scott (1936)).

12. Ashford (Jeffery, *teste* Tutt, *Br. Lep.*, 3: 538). Ham Street.—Larvae found by H. B. D. Kettlewell on Devil's-bit Scabious (*S. pratensis*), c. 1931 (A. M. Morley); "Ham Street Woods" (Scott (1936)); one, May 18, 1940, one, May 13, 1947 (A. M. Morley); in Long Rope and Birchett Woods, May 30 to June 1, 1950, saw about twenty at Bugle and Rhododendron blossoms, and one at blossom of *Veronica chamaedrys* (C.-H.); May 17, 1954 (P. Cue); Faggs Wood, June 14, 1958 (Scott, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1958: 72).

16. Folkestone\*, "a few in gardens" (Knaggs (1870)). Sandling Park, A. Hardy said that he took this species here in 1947 at Rhododendron along with *H. fuciformis* (A. M. Morley). Park Wood, c. 1952 (E. Scott).

FIRST RECORD, 1836: Birch Wood (Anon., *Ent. Mag.*, 3: 309).

## NOTODONTIDAE

### ***Harpia bicuspis*** Borkh.: Alder Kitten.

Native. Woods, carr; on birch, alder. Very scarce and mainly Wealden.

2. Davington Hall Farm, near Faversham, 1913, a larva in alder carr, not reared (H. C. Huggins).

6. Otford, ♂, at m.v.l., June 22, 1955 (W. B. L. Manley).

6a. Darent Wood (Curtis, *Br. Ent.*, 193); taken occasionally in July (Stephens, *Haust.*, 2: 16).

10. Seal Chart; Wilderness Park, Sevenoaks (Carrington, *Entomologist*, 13: 80). Seal Chart, an imago, c.1940 (J. L. Fuller). Brasted Chart, a larva on birch (R. M. Prideaux).

11. Mereworth Woods, a larva on birch, c.1895, not reared (H. S. Fremlin); an imago taken by T. Blest (W. A. Cope); W. A. Cope told me he once tethered with cotton around its waist, a fresh ♀ from Mereworth, in the hope of obtaining a pairing, but that on his return he was dismayed to find the insect had been eaten, presumably by a bird (C.-H.). [Mereworth Woods], one, labelled "Mid. Kent, 7.1907. Goodwin" (E. Goodwin coll.). Sevenoaks Weald, ♂ taken at m.v.l., June 18, 1960 (E. A. Sadler).

13. Goudhurst, one taken at m.v.l., May 1955 (W. V. D. Bolt). Tunbridge Wells, two at m.v., 1958 (L. R. Tesch).

FIRST RECORD, 1827: "Birch-trees, Darent Wood, Kent" (Curtis, *Br. Ent.*, 193).

### ***H. bifida*** Brahm (***hermelina*** auct.): Poplar Kitten.

Native. Woods, plantations, gardens, hedgerows; on poplar, aspen, sallow. "Scarce" (V.C.H. (1908)).

1. Blackheath (West, *Entomologist*, 4: 131). Bexley (Fenn, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1892-93: 114); June 11, 1934 (B. K. West). Lee; Sydenham (Buckell & Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1901: 62). Chislehurst; Lewisham; Greenwich; Mottingham

(*Wool. Surv.* (1909)). Chislehurst, larvae fairly common (S. F. P. Blyth). Charlton (*V.C.H.* (1908)). Abbey Wood, between 1914 and 1918 (St. J. Marriott, in Juby & Hards (1925)). Sidcup, few larvae, July 26, 1925; St. Paul's Cray Common, two larvae, August 26, 1922, one, August 25, 1923, several, July 28, 1925 (A. R. Kidner, *Diary*). West Wickham (Kershaw, *Entomologist*, **51**: 66). Dartford, May 9, 1947 (B. K. West). Petts Wood, two, at light, 1948 (E. Evans). Bromley, larva on aspen, August 24, 1949, reared June 1, 1950 (D. Lanktree). Orpington, 1954 (L. W. Siggs). St. Mary's Cray, one, 1957 (R. G. Chatelain).

2. Brompton\* (Chaney (1884-87)). Ospringe\* (G. V. Bull). Gravesend; Faversham; at street lamps (H. C. Huggins).

4. [Sandwich, six empty cocoons on large Lombardy Poplars, March 31, 1930 (A. M. Morley).] Ickham, one August 6, 1954 (D. G. Marsh).

3. Herne Bay, larva on poplar, 1922 (A. J. L. Bowes).

5. Farnborough\* (*Wool. Surv.* (1909)). Chevening, ova on aspen, 1918, imagines reared (Lort-Phillips, *Diary*). Westerham (R. C. Edwards).

6. Greenhithe (A. B. Farn MS.). Gravesend, 1913, 1915; Stansted, larva on aspen, August 28, 1923 (F. T. Grant). Horton Kirby Wood; Pinden (E. J. Hare).

6a. Darenth Wood (Curtis, *Br. Ent.*, 193); larvae on aspen (Carrington, *Entomologist*, **12**: 213) (H. C. Huggins).

7. Westwell, larva (Scott (1950)). One May 24, 1952 (D. G. Marsh).

8. Folkestone\* (Fellows, *Entomologist*, **25**: 322). Dover, ♂, June 5, 1895 (Stockwell, *Diary*). Selsted, a larva found by A. G. Riddell, 1930 (A. M. Morley). Stowting, a broken twig on which was a cocoon, found on the road under large Black Poplars, September 6, 1931, from which imago emerged June 22, 1932 (A. M. Morley). Eastry, one taken by A. M. Morley (E. & Y. (1949)).

9. Ramsgate (Willson, *Entomologist*, **23**: 139). Margate, one, 1902, one, 1906 (J. P. Barrett coll.). Manston, ova on poplar, c.1912 (J. W. C. Hunt). Margate, one, 1915; Westgate, pupa, September 16, 1922, reared June 8, 1923; pupa, November 21, 1924, reared May 25, 1925 (H. G. Gomm).

10. Brasted, ova common on sallow (R. M. Prideaux). Sevenoaks, larva, 1949 (F. D. Greenwood).

11. Wateringbury (*V.C.H.* (1908)) (E. Goodwin coll.). Edenbridge, larva, 1934 (F. D. Greenwood). Aylesford, c.1953 (G. A. N. Davis). Hoads Wood, larvae and imagines (P. Cue, teste E. Scott). Sevenoaks Weald, two, May 16, 24, 1959 (E. A. Sadler). Betherden, four, August 14-20, 1960 (C. R. Haxby and J. Briggs).

12. Ashford, four pupae under poplar bark (Russell, *Ent. week. Int.*, **3**: 19); c.1953, in the town (P. Cue). Ham Street—several ova on aspen, May 31, June 8, 1930; single larvae, August 16, 1931, August 12, 1933, August 17, 1936; five imagines, June 1, 8, 14, 1934, one, May 18, 1936 (A. M. Morley); May 24, 1935, A. G. Peyton; August 18, 1936 (Bull, *Diary*); three ♂♂, one ♀ at light, June 17, 1934, ♂ at light June 1, 1935 (A. J. L. Bowes); 1934, 1936 (de Worms, *Entomologist*, **68**: 103, **70**: 55); Orlestone Woods, two ♂♂, one ♀, July 15, 1939, several, June 1948, six ♂♂, May 25, 1951, four ♂♂, June 15-16, 1951, three including one freshly emerged ♂ on oak trunk, July 6, 1951, all others at light (C.-H.); 1958 (de Worms, *Entomologist*, **92**: 69, 71); Faggs Wood, larva on sallow (C.-H., *Proc. S. Lond. ent. nat. Hist. Soc.*,

1960: 84). Brook, larvae (Scott (1936)); larvae, 1938 (C. A. W. Duffield, teste E. Scott). Willesborough, one, July 7, one, July 29, 1954; Wye, one, June 22, 1953, one, June 26, 1955 (W. L. Rudland).

13. Goudhurst, c.1950 (B. G. Chatfield); frequent at light annually (W. V. D. Bolt, *verbal communication*, 1961).

14. Sandhurst, bred May 23, 1943 (Bull, *Diary*). Hawkurst, c.1950; Benenden, c.1950 (B. G. Chatfield). Iden Green, one at light, 1950 (H. Boxall). Tenterden, one June 15, 1960 (C. G. Orpin).

15. Dungeness, dead imago at lighthouse, August 14, 1954 (C.-H.).

16. Lower Sandgate Road, Folkestone, larvae (Knaggs (1870)). Folkestone, a larva on Black Poplar, July 1949, ♀ emerged June 12, 1950; one, August 22, 1955, ♂ July 5, 1957 (A. M. Morley).

**VARIATION.**—The following abs. are in R.C.K.:—*arcuata* Stephens, one, Bexley, bred 1909, one, Kent, 190—; *integra* Stephens, three, Bexley, bred.

**FIRST RECORD**, 1827 “Poplars, Darenth Wood” (Curtis, *Br. Ent.*, 193),

#### **H. furcula** Clerck: Sallow Kitten.

Native. Woods, marshy places etc.; on *Salix caprea*, *S. viminalis*, *Populus tremula*, *P. alba*.

**Note:** The records indicate two broods, imagines of the first appearing in May and early June, those of the second in July and August, with maximum numbers in the second generation<sup>1</sup>.

<sup>1</sup>Barrett (*Br. Lep.*, 3: 88-89) gives the imago as appearing at the end of May and in June, and adds curiously that it is single brooded but for very rare exceptions. None of the other textbooks that I have at hand mention a second brood.

1. Lewisham, one, August 12, 1847 (Stainton, *Zoologist*, 1915); larva on white poplar, July 25, 1858 (Perkins, *Ent. week, Int.*, 6: 82). Lee, one, July 10, 1866 (West, *Entomologist*, 3: 167). Sydenham, July 20, 1901 (Buckell & Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1901: 62). Farnborough\*, 1901 (Lawrence, *Entomologist*, 34: 355). Bromley, a larva (W. A. Cope). Blackheath; Lewisham (West, *Ent. Rec.*, 18: 200), Forest Hill; Bexley district; Keston; Eltham (*Wool. Surv.* (1909)). Dartford, ♂, July 14, 1950 (B. K. West). Petts Wood, bred 1947, from larva on *S. caprea*, August 1946 (A. M. Swain. Orpington, at light, one, 1955, one 1958 (R. G. Chatelain).

2. Greenhithe\* (*V.C.H.* (1908)). Dartford, ova (B. K. West). Graveney, one, July 5, 1958 (D. G. Marsh).

3. Herne Bay; Blean Woods; occasionally at light (D. G. Marsh). Canterbury, one, c.1948 (A. G. Maconochie). Broad Oak, ♂, at light, August 5, 1951 (C.-H.).

4. Ickham, one, August 19, 1955, one, August 7, 1959 (D. G. Marsh).

5. Chevening, ova, imago emerged August 21, 1917 (Lort-Phillips, *Diary*). Westerham (R. C. Edwards).

6. Ridley Wood, larva, August 30, 1912, two larvae on sallow, August 31, 1915 (F. T. Grant). Ryarsh, larvae, 1932-34, imagines reared (H. S. Fremlin). Dartford district, ova (B. K. West).

6a. Darenth Wood (Stephens, *Hausst.*, 2: 17); larvae on aspen

(Carrington, *Entomologist*, **12**: 213); larvae and imagines, 1902-10 (H. C. Huggins).

7. Faversham (H. C. Huggins). Westwell, one, August 9, 1938 (Scott (1950)), two, August 8, 1956 (D. G. Marsh).

8. Folkestone\* (Ulyett (1880)). Hawkinge, pair *in cop.*, July 14, 1929 (W. O. W. Edwards, *teste* Morley ((1931)). Brook, larvae, 1938 (Scott (1950)). Near Barham; Kearsney (E. & Y. (1949)). Dover, one, 1954 (B. O. C. Gardiner).

9. Margate, four, 1904 (J. P. Barrett coll.).

10. Brasted, ova common on aspen (R. M. Prideaux).

11. Wateringbury (E. Goodwin coll.) (*V.C.H.* (1908)). Tonbridge (Rattray, *Entomologist*, **45**: 80). Shipborne; Tonbridge; at light, 1939 (H. E. Hammond). East Malling, one, 1951; Aylesford, 1954-55 (G. A. N. Davis). Hoads Wood, c.1953 (P. Cue); two ♂♂ at m.v., August 11, 1955 (C.-H.). Sevenoaks Weald, one, July 21, 1959 (E. A. Sadler).

12. Ashford, six pupae under bark of willow (Russell, *Ent. week. Int.*, **3**: 19). Gibbons Brook, cocoon under bark of sallow, September 14, 1929, from which ♂ reared, June 22, 1930 (Morley (1931)). Ham Street, July 8, 1935 (Bull, *Diary*); several at light, August 5, 1935 (A. J. L. Bowes); one, July 25, 1952 (E. H. Wild); 1953 (R. Lovell, *fide* A. M. Morley), one, May 10, 1954 (D. G. Marsh). Ashford, c.1953 (P. Cue). Chartham, one, 1953 (P. B. Wacher). Willesborough, two, May 25, 30, 1954, four, July 9-August 9, 1956; Wye, one, August 5, 1953, two, May 12, 27, 1954, four, July 27-August 23, 1954, two, August 15, 1956 (W. L. Rudland). Willesborough, one, August 1959 (M. Enfield).

13. Groombridge (Morgan, *Lepidoptera of Tunbridge Wells MS.*). Goudhurst, frequent at light annually (W. V. D. Bolt, *verbal communication*, 1961).

14. Benenden Government Forest\*, at light, August 13, 1937, August 26, 1941 (Bull, *Diary*). Tenterden (1960) (C. G. Orpin).

15. Appledore, larva on osier, July 1898 (Heitland, *Entomologist*, **31**: 221). Dungeness, ♂, at light, August 14, 1934 (A. J. L. Bowes); one, on post, May 30, 1936 (H. King); two ♂♂, at m.v., June 1, 1956 (C.H.), a few, August 18, 1958 (E. C. Pelham-Clinton).

16. Folkestone district\*, one taken, c.1898 (J. W. Walton, *teste* A. M. Morley). Folkestone, one, July 15, 1955 (R. W. Fawthrop, *teste* A. M. Morley); one, August 27, 1955, one, August 16, 1958 (A. M. Morley).

FIRST RECORD, 1828: Darent Wood (Stephens *Hast.*, **2**: 17).

#### **Cerura vinula** L.: Puss.

Native. Woods, gardens, plantations, marshes, etc.; on *Populus* and *Salix*. Found in all divisions, and apparently fairly generally distributed throughout the county. "Generally common" (*V.C.H.* (1908)).

The moth normally appears from about the middle of May to about the middle of June. It has been noted perhaps mostly at light, and the ♀ seems to come as often as the ♂. In 1952, one was taken in Folkestone by A. M. Morley on April 19; and in 1955, W. L. Rudland took one at Wye as late as July 14.

The pupal stage sometimes occupies more than one season; thus Bull (*Entomologist*, **64**: 281) records one that emerged May 25, 1930 from a larva taken at Sandhurst in 1928.

Larvae and ova have perhaps mostly been noted on Black Poplar, but are also found fairly frequently on aspen and willow sp. For example, West (*Ent. Rec.*, **18**: 200) recorded larvae on sallows, willows, and poplars at Brockley, Lewisham, and Greenwich Marshes; R. M. Prideaux found ova very commonly at Brasted on sallow; and A. M. Swain noted larvae on aspen and willow sp. at Petts Wood. H. C. Huggins states that he has especially noted the larvae in Kent on poplars growing round hop gardens. Sometimes they have been found in considerable abundance; thus, G. G. E. Scudder writes that "enormous numbers" of ova and larvae were found on Black Poplar trees at Fawkham (div. 6), in 1952; and in a lecture to the Folkestone Nat. Hist. Soc., in 1874, Ulyett said of the larvae:—"Here in Folkestone, you may gather them by the dozen all the season through, whenever you come across willow or poplar trees" (Ulyett (1880), 97).

VARIATION.—The following abs. are in R.C.K.:—*zickerti* Frings, one, Sidecup; *minax* Hübn., one, N. Kent; *fasciata* Schultz, one, Folkestone.

FIRST RECORD, 1828: Birch Wood (Stephens, *Haust.*, **2**: 20).

#### ***Stauropus fagi* L.: Lobster.**

Native. Woods, parkland; on birch, hazel [beech]. Notably absent from the Blean area, and apparently scarce except in the Weald and in parts of Mid and West Kent. "Scarce" (V.C.H. (1908)).

1. Birch Wood, taken annually (Stephens, *Haust.*, **2**: 22). Bexley Wood (Curtis, *Br. Ent.*, 674). West Wickham (Linton, *Ent. week. Int.*, **2**: 91) (Wood, *Ent. week. Int.*, **2**: 109) (Carrington, *Entomologist*, **13**: 165) (Eedle, *Entomologist*, **14**: 181) (Bloomfield, *Ent. Rec.*, **2**: 116) (West, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1899: 85) (Wells, *Entomologist*, **25**: 193); two, bred 1902-03 (J. P. Barrett coll.); ♂, ab. *obscura* Rebel, 1951 (C.-H.). Holwood Park\*; Shooters Hill; Joydens Wood (*Wool. Surv.* (1909)). Petts Wood, larva (S. F. P. Blyth); ♂, 1946 (E. Evans); larva on birch, 1955 (R. G. Chatelain). Beckenham, one, typical example, at light, c. 1927 (W. J. Watts). Keston (de Worms, *Lond. Nat.*, 1953: 116). Orpington, 1954 (A. J. Showler). Bromley, one at m.v., 1961 (D. R. M. Long).

2. Chatham Dockyard, larva (Chaney (1884-87)).

5. Farnborough (Alderson, *Ent. Rec.* **12**: 248). Westerham, 1959, both *obscura* and typical forms (R. C. Edwards).

6. Shoreham, larva on hazel (Line, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1934-35: 36). Otford, about eight at m.v., 1955-56, all *obscura* (W. B. L. Manley). Eynsford, three, June 21, 1959 (R. G. Chatelain).

6a. Darenth Wood, two, 1862 (Fenn, *Diary*) (Standish, *Entomologist*, **4**: 99, **5**: 147). Cobham Woods, one, 1912, on birch trunk (F. T. Grant).

7. Wigmore Wood, larva (Chaney (1884-87)). Westwell, two, July 5, 1932 (Bull, *Diary*); three at car lights, June 3, 1933 (A. M. Morley); beech woods (Scott (1936)); July 20, 26, 1946 (Bull, *Proc. S. Lond. ent. Nat. Hist. Soc.*, 1946-47: 168). Kings Wood (Scott (1936)). White Hill, June 22, 1935 (Bull, *Diary*). Bluebell Hill, one, c. 1953 (G. A. N. Davis). Boxley, 1953 (A. H. Harbottle).

8. Wye.—♂, on beech trunk (Jeffrey, *Ent. mon. Mag.*, **5**: 223) (C. A. W. Duffield); Crown Pit, June 10, 1951 (E. H. Wild). Folkestone\* (Ulyett (1880)). Elham, ♀, June 27, 1930 (W. E. Busbridge);

1959 (de Worms, *Entomologist*, **93**: 177). Atchester Wood, one, June 22, 1930 (E. & Y. (1949)). Gorsley Wood, four, 1938, including one *trans. ad obscura* (P. B. Wacher).

10. Knole Park (Biggs, *Entomologist*, **11**: 160). Seal Chart (Carrington, *Entomologist*, **13**: 79). Brasted, ♀, 1916 (Lort-Phillips, *Diary*). Westerham (Jacobs, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1931-32: 59); six at light, mostly *obscura*, 1951 (R. C. Edwards). Sevenoaks, one, 1951 (F. D. Greenwood).

11. Mereworth (V.C.H. (1908)) (Fremlin, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1946-47: 171). Tonbridge, ♂♂ common at light, 1939 (H. E. Hammond). Aylesford, one, 1954 (G. A. N. Davis). Hoads Wood (P. Cue, teste E. Scott). Sevenoaks Weald, four, June 21-July 3, 1959 (E. A. Sadler).

12. Charing\*, two, 1906 (J. P. Barrett coll.). Lenham (H. C. Huggins). Willesborough, two, 1956; Wye, six, 1953, one fresh specimen, August 2, 1954, three, 1955, ten, 1956 (W. L. Rudland). Ham Street.—♂, *obscura*, June 8, 1934, A. G. Peyton (C.-H. coll.); several at light, June 19, 1934, July 6, 1938 (A. J. L. Bowes); three, May 20, two, June 1, 1934 (A. M. Morley); larva, July 28, 1945 (Bull, *Diary*); noted fairly frequently at light in Long Rope and adjacent woods from time to time since 1939; single examples of *obscura* in 1948, 1951, 1952 (C.-H.); one, May 15, 1956 (W. L. Rudland); June 10, 1960 (R. G. Chatelain).

13. Near Tunbridge Wells, larva, 1827, W. Raddon (Stephens, *loc. cit.*). Southborough, M. M. Phipps; Wood near High Rocks (Knipe (1916)). Goudhurst, ♂♂ fairly common at light during the 1950's to 1961, all typical (W. V. D. Bolt). Tunbridge Wells, one, 1957 (L. R. Tesch, teste C. A. Stace); one, 1959 (C. A. Stace).

14. Hawkhurst, at light, one 1951, one 1952; Benenden, one 1952 (B. G. Chatfield). Iden Green, one at light, 1951 (H. Boxall).

**VARIATION.**—It would appear that ab. *obscura* Rebel is now as frequent as the type in West Kent. The earliest record I have of the occurrence of *obscura* in Kent, is that of one taken by Peyton at Ham Street in 1934 (C.-H.).

FIRST RECORD, 1828: Stephens, *Haust.*, **2**: 22.

**Drymonia dodonaea** Schiff. (**trimacula** Esp.): Marbled Brown.

Native. Woods, parkland; on oak, beech. Unrecorded from div. 14, but doubtless present. Probably casual in 15.

Obs.—A partial second generation may occasionally occur, as is suggested by the appearance of the moth at light at Ham Street in 1934, on July 20, and at Willesborough in 1954, on August 2,

1. Birch Wood (Stephens, *Haust.*, **2**: 31). Eltham, one, 1875; Bexley district (*Wool. Surv.* (1909)). West Wickham (*Wool. Surv.* (1909)); 1910 (Mannering, *Entomologist*, **43**: 204); 1951 (E. Trundell). Chislehurst (S. F. P. Blyth). Petts Wood, two or three annually, 1948-50 (E. Evans). Orpington, 1953 (L. W. Siggs). St. Mary Cray, one, June 13, 1959 (R. G. Chatelain). Bromley, one, 1960, one, 1961 (D. R. M. Long).

3. Herne Bay, one, 1947 (D. G. Marsh). Broad Oak, one, 1952 (C.-H.).

5. Westerham (R. C. Edwards).

6. Greenhithe (Farn MS.). Gravesend, 1913 (F. T. Grant), Pinden

(E. J. Hare). Eynsford, two, June 21, 1959, three May 24, 1960 (R. G. Chatelain).

6a. Darent Wood (Stephens, *loc. cit.*); larvae on oak, imago reared June 2, 1861 (Huckett, *Ent. week. Int.*, **10**: 117); uncommon (E. J. Hare); fairly common (B. K. West). Chattenden (Chaney (1884-87)).

7. Wigmore Wood (Chaney (1884-87)). Westwell, one, May 27, about forty at light, June 3, 1933 (A. M. Morley); twelve or more on the sheet, June 9, 1934 (Bull, *Diary*). White Hill, June 22, 1935 (Bull, *Diary*); one, June 20, 1936 (A. M. Morley). Boxley, 1953 (A. H. Harbottle).

8. Folkestone\* (Ullyett (1880)). Covert Wood, June 22, 1935 (J. H. B. Lowe); June 13, 1949 (G. H. Youden). Barfreston (E. & Y. (1949)).

10. Westerham (Gorham, *Ent. week. Int.*, **7**: 28). Sevenoaks (Carrington, *Entomologist*, **13**: 80). Dunton Green, one, June 26, 1908 (A. R. Kidner).

11. Tonbridge (Raynor, *Entomologist*, **6**: 79). Yalding (*V.C.H.* (1908)). Hoads Wood, 1938 (E. Scott); at m.v., ♀, June 23, 1956 (C.-H.). Aylesford (G. A. N. Davis). Sevenoaks Weald, two, May 24-27, 1959 (E. A. Sadler).

12. Ashford neighbourhood\*, larva on beech (Viggers, *teste* Jeffrey, *Ent. mon. Mag.*, **26**: 256). Ashford Town, 1952, 1954 (P. Cue). Willesborough, one, May 26, one, August 2, 1954; Wye, one, June 9, 1953, one, May 25, 1954, five, May 30-June 23, 1956 (W. L. Rudland). W. Ashford, ♂ (1959) (M. Singleton). Ham Street, May 22, 1934 (A. M. Morley); common at light, June 17, 1934; June 1, 1935 (A. J. L. Bowes); noted in fair numbers at light, 1939, 1948, 1951, 1954, 1956, in Orlestone Woods (C.-H.); numerous, at m.v., May 1961 (B. K. West). Hockley, near Warehorne, six at light, June 8, 1936 (A. M. Morley). Ham Street Village, 1960 (de Worms, *Entomologist*, **94**: 159).

13. Southborough (M. M. Phipps, in Knipe (1916)). Lamberhurst, May 25, 1938; Bedgebury, June 22, 1938 (Bull, *Diary*). Goudhurst, fairly common at m.v. annually, 1955-59, scarcer, 1960-61 (W. V. D. Bolt).

15. Lydd-on-Sea, one, on a lamp-post, June 19, 1936 (*fide* A. M. Morley).

16. Folkestone Town, one, May 26, 1954 (R. W. Fawthrop, *teste* A. M. Morley).

VARIATION.—The following abs. are in R.C.K.:— *intermedia* Schawerda, several, Ashford; *trimacula* Esp., one, Ashford, 1934.

A ♂ that I have, taken Ham Street, 1939; and a ♂ taken by A. M. Morley at Westwell, appear referable to ab. *albida* Rebel (C.-H.).

FIRST RECORD, 1828: Stephens, *Haust.*, **2**: 31.

\*"Barham" (E. & Y. (1949)), may refer.

### **Chaonia ruficornis** Hufn. (**chaonia** Hübn.): Lunar Marbled Brown.

Native. Woods, parkland; on oak. Fairly plentiful some years, particularly in 1952 and 1954, and evidently more frequent and widespread since about 1947.

1. Birch Wood (Stephens, *Haust.*, **2**: 30). Shooters Hill, larvae (Crewe, *Ent. week. Int.*, **1**: 123); larva, July 19, 1862 (Fenn, *Diary*). Lee, one at rest on an oak, May 31, 1886 (Fenn, *Lep. Data MS.*). Bexley, larva, July 10, 1898 (Carr, *Entomologist*, **32**: 40); one, May 3, 1952 (A. Heselden). Keston; Eltham; Black Fen; Horn Park; Lee (*Wool. Surv.*

(1909)). Bromley (Lawrence, *Ent. Rec.*, **13**: 221). Chislehurst, ten on street lamps, 1907; only seen once or twice since; Petts Wood, one on oak trunk, April 17, 1945 (S. F. P. Blyth). Bromley Common, several (W. A. Cope). Chislehurst, one, May 9, 1915 (A. R. Kidner). Petts Wood, four, 1947, one 1948 (E. Evans); larvae, c. 1959 (R. G. Chatelain). West Wickham; Orpington (de Worms, *Lond. Nat.*, 1953: 117). Orpington, 1954 (L. W. Siggs). Bromley, March 30, 1961 (Long, *Ent. Rec.*, **73**: 133); plentiful, 1960-61, averaging about six per night at m.v. (D. R. M. Long).

3. Blean, two, 1904, 1906, both bred (J. P. Barrett coll.). Canterbury, ♂, May 12, 1934 (A. G. Peyton). Pine Wood, one on an oak tree, 1947 (J. A. Parry). Eddington, two ♂♂, two ♀♀, May 19-23, 1951, two ♂♂, April 30, three ♀♀, two ♂♂, May 7, 1952, several, 1953; all at light (D. G. Marsh).

5. Chevening, ♀, May 16, 1914 (Lort-Phillips, *Diary*). Westerham, occasionally (R. C. Edwards).

6. Longfield (Jennings, *Entomologist*, **4** (54), ii). Gravesend, at street lamps, May 5, 1921, May 4, 1923, May 1934 (F. T. Grant). Pinden, rather common (E. J. Hare). Wrotham, larvae, June 23, 1957 (McDermott, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1957: 70). Meopham, May 4, 7-8, 1960, April 30, May 3, 1961; six to ten per annum (J. Ellerton).

6a. Darent Wood (Stephens, *loc. cit.*); two larvae, June 22, 1862 (Fenn, *Diary*) (H. C. Huggins); fairly common (B. K. West). Cobham (H. C. Huggins).

7. Westwell, several, 1952 (E. Scott).

8. Folkestone\* (Ulluyett (1880)). Dover, ♂, May 5, 1900 (Stockwell, *Entomologist*, **34**: 26). Near Woolwich Wood (E. & Y. (1949)). Brook, two, April 14, 1952, about twenty, early May 1954 (C. A. W. Duffield, teste A. M. Morley); 1953 (W. L. Rudland).

10. Wilderness Park (Carrington, *Entomologist*, **13**: 80). Sevenoaks (Hill, *Entomologist*, **19**: 185). Seal Chart (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1905-06: 39, 1937-38: 45, 1948-49: 71). Brasted (R. M. Prideaux). Westerham (R. C. Edwards).

11. Mereworth Wood, ♀, c. 1885 (H. S. Fremlin). Wateringbury (V.C.H. (1908)). Hoads Wood, larvae (Scott (1936)); 1953-54 (P. Cue); three, April 29, 1955, three, May 14, 1956 (W. L. Rudland). Tonbridge, several larvae, 1949-51 (H. E. Hammond). Aylesford, common at m.v., 1951, 1954 (G. A. N. Davis). Sevenoaks Weald, three, May 10-12, 1959 (E. A. Sadler).

12. Ham Street.—May 5, 1934, April 26, May 6, 1935 (A. G. Peyton, teste A. M. Morley); May 12, 1934, May 9, 1936, April 28, 1937, April 24, May 17, 1939 (Bull, *Diary*); about twelve, 1935 (Scott (1936)); a larva on oak at night, June 25, 1938 (A. M. Morley); Long Rope, two worn, at light, April 14, 1939, five ♂♂, five ♀♀, in good condition, at m.v., May 12-13, 1951 (C.-H.); numerous at m.v., 1954 (P. B. Wacher); 1959 (de Worms, *Entomologist*, **93**: 158); three, May 6, 1960 (R. G. Chatelain). Willesborough, four, May 10-11, 1954, one, May 24, 1955, four, May 11-22, 1956 (W. L. Rudland); ♂, 1959 (D. Youngs). Wye, one, April 24, 1953, ten, May 7-14, 1954, two, April 29-May 26, 1955, thirteen, May 5-16, 1956 (W. L. Rudland). Ashford, about thirty, May 10, 1954 (P. Cue, teste A. M. Morley); 1960 (de Worms, *Entomologist*, **94**: 159).

13. Tunbridge Wells (Knipe (1916)). Goudhurst, c. 1950 (B. G. Chatfield); fairly common at m.v., 1955-59, scarcer 1960-61 (W. V. D. Bolt).

14. Sandhurst, May 1, 1934 (Bull, *Diary*). Hawkhurst, common at light, 1953-54 (B. G. Chatfield). Tenterden, 1959-60 (C G. Orpin).

16. Folkestone Town, one, May 11, one, May 21, 1954 (A. M. Morley).

**VARIATION.**—A ♂ that I have from Long Rope, 1951, has the clear whitish ground of the median area of forewing unmarked except for the crescent, and is therefore perhaps referable to ab. *vivida* Zerny (C.-H.). D. G. Marsh has a ♀ taken Ham Street, May 12, 1956, in which the median area of forewing is completely suffused with the fuscous colouring of the basal and outer areas†.

FIRST RECORD, 1828: Stephens, *Haust.*, 2: 30.

**Pheosia tremula** Clerck: Swallow Prominent.

Native. Woods, marshes, etc.; on poplar, aspen, sallow. Fairly numerous, and found in all divisions.

The insect is regularly double brooded; appearing on the wing in May and June, and again in July and August, sometimes continuing into September; the second generation, it appears, is generally more numerous.

The moth has mostly occurred at light, but is occasionally seen on trunks, e.g. H. G. Gomm (*Diary*) records finding a pair *in cop.* on a poplar trunk at Westgate (div. 9), August 21, 1924.

Among the many records of its discovery in the early stages, may be mentioned the following. On aspen: ova common, at Brasted (R. M. Prideaux); larva, Stansted, August 28, 1923, two larvae, Darent Wood, October 4, 1924 (F. T. Grant). On poplar: ova, Chevening, 1912, imagines reared (Gillett, *Diary*); larvae found by D. Saunders on small poplars at Seabrook near the beginning of the Hythe canal, c. 1925; a larva, Folkestone Town, September 6, 1934 (A. M. Morley). On sallow: several larvae, Tonbridge, 1951 (H. E. Hammond).

**VARIATION.**—In R.C.K. is an ab. with “marking brown”, bred Chevening, June 17, 1913.

Newman (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1908-09: 71) exhibited “an extremely dark form bred from Bexley ova”.

FIRST RECORD, 1828: Darent Wood and near Dover (Stephens, *Haust.*, 2: 25).

**P. gnoma (dictaeoides Esp.): Lesser Swallow Prominent.**

Native. Woods, heaths, etc.; on birch. Locally fairly numerous, though usually less plentiful than *P. tremula*. Recorded from many localities in 1, 10, 12.

Note:—In certain areas it is noticeably more plentiful than *tremula*; thus, at Petts Wood (div. 1), E. Evans (*in litt.*, 1951), wrote that there it is “much commoner than *P. tremula*”, and at Hawkhurst (div. 14), B. G. Chatfield (*in litt.*, 1950), likewise noted it as more common than *tremula*. V.C.H. (1908), calls it “scarce”.

3. Bysing Wood (H. G. Huggins). Canterbury, a few on street lamps (A. G. Peyton, teste A. J. L. Bowes). Herne Bay; Blean Woods; occasionally at light (D. G. Marsh).

5. Chevening, May 18, 1914 (Gillett, *Diary*). Westerham, plentiful, 1961 (R. C. Edwards).

6. Greenhithe\* (*V.C.H.* (1908)). Gravesend (H. C. Huggins). Culverstone, larva on birch, September 18, 1924 (F. T. Grant). Pinden (E. J. Hare). Shoreham, larvae c.1955 (R. G. Chatelain). Meopham, ten to twenty per annum, 1959-61 (J. Ellerton).

6a. Darent Wood (Stephens, *Haust.*, **2**: 25); 1861 (Fenn, *Ent. week Int.*, **10**: 196) (Carrington, *Entomologist*, **12**: 214); larva, June 28, 1907 (A. R. Kidner, *Diary*); May 11, 1912, May 15, 1921, May 22, 1923 (F. T. Grant) (H. C. Huggins) (E. J. Hare). Swanscombe Wood, larva on birch, September 6, 1913 (F. T. Grant).

7. Sittingbourne\*, one, 1903 (J. P. Barrett coll.). Westwell, July 22, 1946 (Bull, *Diary*); common, 1951-54 (E. Scott). Boxley, 1953 (A. H. Harbottle).

8. Folkestone\* (Ullyett (1880)). Crabble near Dover, ♂ on gas lamp, May 12, 1899 (H. D. Stockwell, *Diary*). Dover, one, August 20, 1945 (B. O. C. Gardiner).

9. St. Peters, one, c. 1945 (J. W. C. Hunt).

11. Wateringbury (*V.C.H.* (1908)). Shipbourne (Buxton, *Ent. Rec.*, **23**: 314). Tonbridge (Rattray, *Entomologist*, **45**: 80). Hoads Wood, one at light, May 7, 1937 (E. Scott); c. 1952 (P. Cue). Aylesford, c. 1954 (G. A. N. Davis). Sevenoaks Weald, two, May 11-12, two, August 8-22, 1959 (E. A. Sadler).

13. Tunbridge Wells, fairly common (Knipe (1916)), one, 1957, one, 1958 (L. R. Tesch, *fide* C. A. Stace). Goudhurst, common at light, 1955-59, scarcer, 1960-61 (W. V. D. Bolt).

14. Sandhurst, May 13, 1937 (Bull, *Diary*). Hawkhurst, c. 1950 (B. G. Chatfield).

16. Folkestone, two, in spring, one, August 15, 1951; one, April 25, one, May, one, August 13, 1952; two, August 8, 20, 1953; one, July 30, one, August 26, 1954; none, 1955; one, August 13, one, September 2, 1956; none, 1957; one, August 29, 1958; none, 1960-61; all ♂♂, and at m.v. (A. M. Morley).

FIRST RECORD, 1828: Stephens, *Haust.*, **2**: 25.

#### **Notodonta ziczac:** Pebble Prominent.

Native. Woods, plantations, carr, etc.; on poplar, aspen, sallow.

1. Recorded from many localities in this division in the past. Recent records are:—Petts Wood, 1947-48 (E. Evans). Lewisham, apparently very local, larvae on willows and poplars (1947) (D. F. Owen). Bexley, one, July 5, 1952 (A. Heselden). Orpington, 1953 (L. W. Siggs); common, c. 1955 (R. G. Chatelain). Crofton, ova and larvae, 1959-61; Bromley, one at light, 1961 (D. R. M. Long).

2. Greenhithe\* (Farn MS.). Woolwich, larvae, from which imagines reared 1952 (J. Green).

3. Bysing Wood, larva (H. C. Huggins). Herne Bay; Blean Woods; not uncommon (D. G. Marsh). Broad Oak, one at light, August 2, 1946 (C.-H.).

4. Minster, two bred, 1905-06 (J. P. Barrett coll.). Ickham (D. G. Marsh).

5. Chevening, ova on poplar, reared 1917; Knockholt, larva on aspen, reared 1918 (Gillett, *Diary*). Westerham (R. C. Edwards).

6. Longfield (Jennings, *Entomologist*, **4** (54), ii). Gravesend, 1919; Ridley Wood, larva, August 13, 1915 (F. T. Grant). Meopham, 10-20 per annum, 1959-61; Fairseat, 1960 (J. Ellerton).

6a. Darent (Stephens, *Haust.*, 2: 24); larva on aspen, October 4, 1924 (F. T. Grant) (H. C. Huggins). Chattenden Roughs, not common (Chaney (1884-87)).

7. Westwell (Bull, *Proc. S. Lond. ent. nat. Hist Soc.*, 1946-47: 168); common, 1953-54 (E. Scott). Boxley, 1953 (A. H. Harbottle).

8. Dover, ♂, at electric light, June 5, 1895 (H. D. Stockwell, *Diary*); one, 1954 (B. O. C. Gardiner). Reinden Wood, ♀ flying at dusk, c. 1935, ♀, flying at dusk, 1948 (A. M. Morley). Wye Old Racecourse, August 15, 1937 (E. Scott). Brook\*; Stowting (C. A. W. Duffield). Near Whitfield (E. & Y. (1949)). Bridge c. 1946 (R. Gorier).

9. Northdown, Margate, larva on poplar, September 24, 1919, reared April 16, 1920 (H. G. Gomm, *Diary*).

10. Brasted, ova on sallow (R. M. Prideaux); bred 1913 and 1915, from larvae on aspen (Gillett, *Diary*). Sevenoaks, larva, 1946, ova and larvae, 1946; all on poplar (F. D. Greenwood).

11. Tonbridge (Raynor, *Entomologist*, 6: 79). Yalding; Wateringbury (*V.C.H.* (1908)). Shipbourne, larva, September 1951 (B. K. West). Aylesford, c. 1954 (G. A. N. Davis). Benenden, c. 1950 (B. G. Chatfield). Hoads Wood (Scott (1950)). Sevenoaks Weald, several at m.v., 1959 (E. A. Sadler).

12. Ham Street, one, 1933, five, June 6, 1934, one, 1946; one, August 2, 1947; single larvae on sallow, June 24, 1933, July 20, 1934, September 18, 1948 (A. M. Morley); April 14, 1937 (A. J. L. Bowes, *Diary*); 1939, 1951 (C.-H.); several larvae, 1960 (M. Singleton). Shadoxhurst (Scott (1936)). Ashford, c. 1952 (P. Cue, *fide* E. Scott). Wye, three, 1953, six, May 10-June 26, four, August 2-26, 1954, five, May 1-20, ten, August 8-17, 1955, eight, May 12-June 9, June 28-August 25, 1956; Willesborough, four, May 25-June 1, one, August 25, 1954, five, May 29-June 25, three, August 3-13, 1955, two May 7-8, four, July 9-26, 1956 (W. L. Rudland). W. Ashford, one, August 1959 (M. Enfield).

13. Tunbridge Wells (E. D. Morgan); larvae common, 1951 (H. E. Hammond). Bedgebury (G. V. Bull). Goudhurst, common at m.v. annually, c. 1953-59, scarcer, 1960-61 (W. V. D. Bolt).

14. Sandhurst (G. V. Bull). Hawkhurst, several at light, c. 1950 (B. G. Chatfield). Iden Green, one at light, 1951 (H. Boxall). Appledore, one at light, 1956 (M. Singleton). Tenterden, 1959-60 (C. G. Orpin).

15. Appledore\*, larva on osier, 1898 (Heitland, *Entomologist*, 31: 221). Dungeness, ♀, sitting on wire of a fence, August 11, 1946, one, May 26, 1933, a larva on sallow, September 26, 1948 (A. M. Morley); July 30, 1935 (Bull, *Diary*); July 7-8, 1959 (C. R. Haxby).

16. Lower Sandgate Road, Folkestone (Knaggs (1870)). Folkestone Town, larva on willow, July 25, 1929, larva on poplar, July 24, 1930; imagines at m.v., one, 1951, two, 1952, two ♀♀, 1953, two ♂♂, 1954, three, 1955, two, 1956, two ♂♂, same night, 1959 (A. M. Morley).

**VARIATION.**—From ova laid by a typical ♀, taken at Ham Street, May 14, 1939, some twelve typical examples reared and three ♂♂ apparently referable to ab. *pallida* Grunberg (C.-H.).

The following abs. are in R.C.K.:—?ab. *montion* Dannehl, Bexley, bred 1918; ab. “with markings obsolescent”, Fordwich (Barrett, *Br. Lep.*, 3: plt. 105, fig. e); ab. “rufous with markings decreased”, Kent, 1901; ab. *lunata* Cockayne, holotype, allotype, paratypes (*Ent. Rec.*, 63: 32).

**HYBRIDISATION.**—Hybr. *newmani* Tutt (*N. zigzag* ♂ × *N. dromedarius* ♀). In R.C.K. are numerous examples, bred from Bexley (cf. Tutt, *Br. Lep.*, 5: 21).

FIRST RECORD, 1828: Darenth (Stephens, *Haust.*, 2: 24).

**N. dromedarius** L.: Iron Prominent.

Native. Woods, carr; on birch, alder, hazel, oak. Not very common, but decidedly more frequent in the woods of the Weald and in those of Mid- and West Kent. Most of the records are of imagines at light, and of autumnal larvae on birch, the main pabulum in Kent. Regularly double brooded.

1. Shooters Hill (Crewe, *Ent. week. Int.*, 1: 123) (*Wool. Surv.* (1909)). West Wickham (Fenn, *Ent. week. Int.*, 10: 196); 1951 (E. J. Trundell). Eltham; Bexley district; St. Pauls Cray (*Wool. Surv.* (1909)). Bexley, 1893 (Fenn, *teste* E. D. Morgan); two, May 3, one July 20, 1952 (A. Heselden); larva on birch, October 1957 (L. T. Ford). Bexley Park Wood, larva, October 15, 1922 (A. R. Kidner). Sidcup, one, May 4, 1936, one, August 16, 1937; New Eltham, August 2, 1924; St. Pauls Cray, several larvae, September 27, 1909, one larva, August 2, 1913, September 6, 1919, September 10, 1920, 1922 (A. R. Kidner). Chislehurst (*V.C.H.* (1908)); common (S. F. P. Blyth); Farningham Wood, three larvae, 1937 (A. R. Kidner). Abbey Wood, 1953 (A. J. Showler). Dartford, larvae, September 1948 (B. K. West). Welling, one, August 5, 1952 (A. Heselden). Orpington, 1953 (L. W. Siggs); common, c. 1955 (R. G. Chatelain). Charlton, one on garden fence, September 7, 1948 (J. F. Burton). Petts Wood, c. 1947 (E. Evans); larvae on oak and birch (A. M. Swain). Bromley (Sterling, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1938-39: 17); April 26, 1961 (Long, *Ent. Rec.*, 73: 133); fairly numerous at m.v., 1960-61 (D. R. M. Long). Blackheath, one at m.v., May 26, 1960 (A. A. Allen).

2. Davington, one larva on alder, 1914 (H. C. Huggins).

3. Bysing Wood, larva (H. C. Huggins). Trenley Park, two pupae at foot of birch, April 4, 1919, imagines emerged early June 1919 (H. G. Gomm, *Diary*). Blean, larva, 1936 (J. L. Atkinson). Canterbury, one, c. 1939 (J. A. Parry). Broad Oak, one at light, August 5, 1951 (C.-H.).

4. Sandwich, August 18, 1936 (A. J. L. Bowes). Ham Fen, one at light, August 6, 1950 (C.-H.). Ickham, 1958, 1960 (D. G. Marsh).

5. Chevening, larvae on birch, September 1912, 1915; Knockholt, one bred, 1918 (Gillett, *Diary*). Westerham, (R. C. Edwards).

6. Greenhithe (Farn MS.). Magpie Bottom, larva, September 25, 1910, larva, September 23, 1934 (A. R. Kidner). Stanstead, four larvae, August 21, 1923; Culverstone, four larvae, September 18, 1924 (F. T. Grant). Eynsford, larva (Blair, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1933-34: 33); July 8, 1960 (R. G. Chatelain). Pinden (E. J. Hare). Fawkham, 1947 (G. G. E. Scudder). Meopham, 6-10 per annum, 1959-61 (J. Ellerton).

6a. Darenth Wood (Stephens, *Haust.*, 2: 23); larva, September 25, 1910 (A. R. Kidner); larva (H. C. Huggins) (E. J. Hare). Swanscombe Wood, three larvae on birch, September 15, 1914 (F. T. Grant). Upnor (Chaney (1884-87)).

7. Longton Wood (H. C. Huggins). Westwell, 1933 (Scott (1936)); both broods annually (Scott (1950)); August 24, 1946 (Bull, *Diary*);

common, 1953-54 (E. Scott). King's Wood, a larva, 1933 (A. M. Morley). Boxley, 1953 (A. H. Harbottle).

8. Folkestone Warren, July 11, 1934 (J. H. B. Lowe). Brook\*; Wye Old Racecourse, August 15, 1937 (E. Scott). Atchester Wood; Deal\*; Shepherdswell (E. & Y. (1949)). Dover, one, 1954 (B. O. C. Gardiner). Eltham, July 4, 1959 (de Worms, *Entomologist*, **93**: 177).

10. Brasted, larvae on birch, September 1912 (Gillett, *Diary*); ova and larvae on birch (R. M. Prideaux). Sevenoaks, June 27, 1922 (Gillett, *Diary*); eight larvae on birch, 1942; at light, 1948-49 (F. D. Greenwood). Westerham (Carr & Turner, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1924-25: 107) (Jacobs, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1931-32: 75) (R. C. Edwards).

11. Yalding; Wateringbury (*V.C.H.* (1908)). Shipbourne, larvae (Buxton, *Ent. Rec.*, **23**: 314); larvae on hazel, 1951 (B. K. West). Edenbridge, at light, 1928 (F. D. Greenwood). Mereworth Wood, larva, July 23, 1939 (A. R. Kidner). Hoads Wood, larva, September 22, 1941 (Bull, *Diary*); May 10, 1954 (P. Cue). Aylesford, c. 1953 (G. A. N. Davis). Bethersden, August 14-20, 1960 (C. R. Haxby and J. Briggs). Sevenoaks Weald, May 13-June 18, July 18-24, 1959 (E. A. Sadler).

12. Ham Street, one, July 31, 1932 (de Worms, *teste* A. M. Morley); larva, September 1936, ♀, 1937 (A. M. Morley); 1933 (Scott (1936)); ♀, August 20, 1939 (A. J. L. Bowes); fairly numerous at m.v., July 1951, July 1952 (C.-H.) (de Worms, *Entomologist*, **92**: 70); two, August 1960 (C. R. Haxby & J. Briggs); two larvae, 1960 (M. Singleton). Ashford (P. Cue). Willesborough, five, May 10-June 4, 1954, six, August 15-23, 1955, three, May 18-June 19, three, July 9-August 6, 1956; Wye, one, June 10, six, August 6-30, 1953, two, May 27-30, six, July 2-August 26, 1954, five, May 27-June 25, four August 11-23, 1955, two, May 31, three, June 21-28, seventeen, July 14-September 11, 1956 (W. L. Rudland).

13. Broadwater Down, one (E. D. Morgan). Tunbridge Wells, two, 1959 (L. R. Tesch, *fide* C. A. Stace). Goudhurst, fairly common at m.v., 1955-59, scarcer 1960-61 (W. V. D. Bolt).

14. Benenden Government Forest, August 13, 1937 (Bull, *Diary*). Hawkhurst, a few at light, 1950-51, one, 1953 (B. G. Chatfield). Tenterden, 1959-60 (C. G. Orpin).

15. St. Mary-in-the-Marsh, one, taken at car lights, August 1, 1948 (P. le Masurier).

16. Folkestone Town, two, 1952, three, 1953, one, 1955, one, 1957, one, 1959, none, 1960-61, all at m.v. (A. M. Morley).

VARIATION.—In R.C.K. is ab. *dromedarius* Haw., one, "Kent, 1898, J. G. G[reen]".

FIRST RECORD, 1828: Stephens, *Haust.*, **2**: 23.

#### **Notodonta tritophus** Schiff. (**phoebe** Sieb.): Three-humped Prominent.

Suspected immigrant.

One in 1955, is the only confirmed occurrence.

16. Folkestone Town, ♂, taken on the morning of August 22, 1955, by A. M. Morley, from m.v. trap in his garden (Morley, *Ent. Rec.*, **67**: 243); and exhibited (*idem*, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1955: 37, plt. 3, fig. 1).

[One, "near Gravesend", in Burney coll. sale (Anon., *Ent. Rec.*, **4**: 326, 329); ♂, in Dale coll., labelled "Gravesend from coll. Whitsmith".]

(Walker, *Ent. mon. Mag.*, **45**: 109), may refer to the one in the preceding record.]

FIRST (CONFIRMED) RECORD, 1955: Morley, *Ent. Rec.*, **67**: 243.

**N. trepida** Esp. (**anceps** auct.): Great Prominent.

Native. Oak woods, parkland; on oak. Frequent in the Weald, less so elsewhere.

1. Birch Wood (Stephens, *Haust.*, **2**: 33). West Wickham (Tugwell, *Ent. week. Int.*, **1**: 37) (Fenn, *Ent. week. Int.*, **10**: 196) (Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1892: 33); May 25, 1953 (E. Trundell). Shooters Hill, larva, on oak, 1856 (Crewe, *Ent. week. Int.*, **1**: 123). Lewisham, 1867 (Adkin, *Entomologist*, **4**: (51),ii). Eltham; Bexley district (*Wool. Surv.* (1909)).

3. Faversham\*, five, 1904, three, 1905, all bred (J. P. Barrett coll.). Trenley Park, 1920 (H. G. Gomm, *Diary*). East Blean Wood, one, West Blean Wood, one (D. G. Marsh). Canterbury, one at light on the Littlebourne road, c. 1947 (J. A. Parry).

6. Shoreham\*, larvae, c. 1947 (D. F. Owen). Meopham, one, May 24, 1960 (J. Ellerton).

6a. Darent Wood (Stephens, *loc. cit.*); 1855 (Harding, *Zoologist*, 4820) (Harding, *Ent. week. Int.*, **1**: 76; *idem*, *Ent. week. Int.*, **6**: 43, 67) (Standish, *Entomologist*, **4**: 99). Cobham, one 1906 (H. C. Huggins).

7. Wigmore Wood, one, May 1872 (Chainey (1884-87)). Westwell (Scott (1936)); June 3, 1938; fairly common at m.v. annually since c. 1949 (E. Scott, *personal communication*, December 1954). Soakham Downs, May 29, 1938 (E. Scott). Boxley, 1953 (A. H. Harbottle).

8. Wye, one, May 31, 1937 (A. H. Lanfear MS.). Brook, c. 1953 (C. A. W. Duffield, *teste* E. Scott).

10. Westerham (Gorham, *Ent. week. Int.*, **7**: 28) (R. C. Edwards). Sevenoaks (Carrington, *Entomologist*, **13**: 80) (Hill, *Entomologist*, **19**: 185); at light, 1949 (F. D. Greenwood). Seal Chart (Adkin, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1886: 47) (Coote, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1937-38: 45) Brasted Chart, 1916 (Gillett, *Diary*); ova on fences and tree trunks, larvae occasionally (R. M. Prideaux).

11. Tonbridge\*, three (Raynor, *Entomologist*, **6**: 79); 1911 (Rattray, *Entomologist*, **45**: 80). Near Maidstone\* (Green, *Young Nat.*, **1**: 211). Yalding (V.C.H. (1908)). Wateringbury (E. Goodwin, *teste* W. A. Cope) (V.C.H. (1908)). Edenbridge, at light, 1936 (F. D. Greenwood). Hoads Wood, seven, May 9, 1937 (E. Scott); c. 1953 (P. Cue). Aylesford, c. 1953 (G. A. N. Davis).

12. Ashford Town, ♂ found on fence by E. Scott, May 7, 1931 (A. M. Morley); c. 1953 (P. Cue). Ham Street.—4 ♂♂, at light, May 12, 1933, by C. G. M. de Worms; ♀ on oak trunk found by W. Stickles, c. 1935, 5 ♂♂, May 19-26, 1933, 6 ♂♂, May 20—June 14, 1934, 4 ♂♂, April 28—May 24, 1935, 2 ♂♂, June 8, 1936 (A. M. Morley); Long Rope, at light, 2 ♂♂, May 14, 1939, 7 ♂♂, 2 ♀♀, at m.v., May 12-13, 1951 (C.-H.); 1958-59 (de Worms, *Entomologist*, **92**: 69, **93**: 158); one, May 6, 1960 (R. G. Chatelain). Wye, one, May 19, 1953, three, May 25—June 2, 1954 (W. L. Rudland).

13. Southborough (M. M. Phipps, in Knipe (1916)). Kilndown, April 18, 1938 (Bull, *Diary*). Pembury, c. 1950 (V. M. Sage). Goudhurst, at light, c. 1950 (W. F. Hodge); fairly common at m.v., 1955-59,

scarcer, 1960-61 (W. V. D. Bolt). Tunbridge Wells, five, 1957 (L. R. Tesch, *fide* C. A. Stace).

14. Tenterden, April 1946 (Mrs. Luke, *teste* Bull, *Diary*). Sandhurst, one, at light, May 23, 1949 (Bull, *Diary*). Iden Green, three, at light, 1954 (H. Boxall). Hawkhurst, four, 1954 (B. G. Chatfield).

16. Copperhurst Hill, Aldington, ♂, at car lights, 1937, A. M. Morley; Folkestone Town, ♂, at m.v., 1952, J. W. Riddell (Morley, *Trans. Folkestone nat. Hist. Soc.*, 1950-52: 11). Folkestone Town, ♂, at m.v., May 12, 1954 (A. M. Morley).

FIRST RECORD, 1828: Stephens, *Haust.*, 2: 33).

**Lophopteryx cucullina** Schiff. (**cuculla** Esp.): Maple Prominent.

Native. Hedgerows, copses, wood borders; on maple, sycamore.

Mainly recorded in the past from the chalk of 6 and 7, but since about 1935 the species appears to have extended its range considerably.

1. Erith (see *First Record*). Bexley, one at m.v., July 20, 1952 (A. Heselden). Abbey Wood, singletons at m.v., 1953, 1958 (A. J. Showler). Orpington, one, 1956 (Siggs, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1956: 9). St. Mary Cray, two, 1957; Dartford Heath, one, June 23, 1959 (R. G. Chatelain). Bromley, one, 1959 (N. Wilding). Sutton-at-Hone, a full-grown larva on maple, September 4, 1960 (S. Wakely).

2. Higham, ♂ at light, June 11, 1961 (B. K. West).

3. Den Grove, Sturry, one at light, July 17, 1938; Broad Oak, one at light, June 22, 1952 (C.-H.). Eddington, at light, one, 1950; two 1952 (D. G. Marsh). Whitstable, one, 1960 (F. Bickerstaff).

4. Ickham, two, 1955, one 1958, three, 1960, all at light (D. G. Marsh).

[5. Westerham.—Although *cucullina* might very well be expected to occur at R. C. Edward's residence on the chalk downs by the Pilgrim's Way, he tells me that he has never seen it there, despite having worked a light fairly regularly since 1935, as well as having searched for the larva (C.-H.).]

6. Culverstone, larva on sycamore, October 14, 1922; Stansted, three larvae on maple, August 18, 1923; Birling, larva on maple, September 5, 1925 (F. T. Grant). Birling (H. C. Huggins). Eynsford, larvae (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1933-34: 33; 1934-35: 33; 1935-36: 25; 1947-48: 69; 1951-52: 80); imago, June 21, 1959 (R. G. Chatelain). Shoreham, for many years W. A. Cope used to search regularly for the ova, always finding them laid singly on the undersides of maple leaves; my records show that recently he took six ova, July 29, 1948, numerous ova and two larvae, August 1950 (C.-H.); larvae annually since 1945 (F. D. Greenwood, *in litt.*, 1952). Fawkham and Pinden, a few, 1950-52, also larvae frequently beaten from maple (E. J. Hare). Otford, at m.v., two, July 15, one, July 17, one, July 30, one, August 26, 1955, five, July 9-August 27, 1956 (W. B. L. Manley). Halling, one, at light, July 30, 1958 (E. E. J. Trundell).

6a. Darent Wood, June 1820, and several other specimens here and in neighbouring woods (Stephens, *Haust.*, 2: 27); one larva, 1949 (B. K. West). Lodge Hill Wood, a larva on maple, July 26, 1947, from which imago emerged August 8 the same year (P. V. M. Allen). Shorne, one at m.v., June 1, 1960 (E. E. J. Trundell).

7. Westwell, ♂ on sycamore leaf, June 10, 1868 (Jeffrey, *Ent. mon. Mag.*, 5: 223); larvae, 1922 (F. W. Andrews, *teste* Scott (1936)); three

larvae, August 8, 1935 (A. M. Morely); larvae beaten from maple in July (A. M. Morley); and on August 18, 1935 (A. J. L. Bowes); one, July 27, 1948, one July 23, 1949 (E. Scott); one, June 22, 1953 (de Worms, *Ent. Rec.*, 65: 346); 1954, 1955 (P. Cue).

8. Temple Ewell, one, 1932, a larva, August 1936 (E. & Y. (1949)). Whitfield, one, 1953 (Wakely, *Ent. Rec.*, 66: 109). Stowting (C. A. W. Duffield). Brook, a larva, July 22, two larvae, August 14, 1935 (A. M. Morley); larva on maple, October 1, 1937 (A. G. Peyton, teste A. J. L. Bowes); larvae, August 19, 1948 (C. A. W. Duffield, teste E. Scott). Near Canterbury\*, one, c.1948 (A. G. Maconochie). Wye Downs, larva, August 26, 1957 (de Worms, *Entomologist*, 91: 151).

11. Wateringbury neighbourhood\* (E. Goodwin, teste V.C.H. (1908)). Tonbridge, one or two (R. H. Rattray, in Knipe (1916)). Aylesford, three, 1953, one, 1954, all at m.v. (G. A. N. Davis). Sevenoaks Weald, one at m.v., August 21, 1959 (E. A. Sadler).

12. Chartham, one, 1939, two, 1949-50, two, 1952 (P. B. Wacher). Ham Street, one, July 1951 (C.-H.); one, 1951 (E. J. Hare). Stubbs Cross, August 25, 1949 (le Ray, teste E. Scott). Ashford Town, July 10, 1954 (P. Cue). Wye, two, July 7, 1953, three, July 12—August 19, 1954, one, July 25, 1955, two, July 21—August 3, 1956 (W. L. Rudland).

13. Goudhurst, one, 1953, one, 1954, (W. V. D. Bolt).

14. Appledore, one, May 28, 1948 (L. C. Bushby, teste Scott (1950)).

16. Folkestone, one at m.v., 1957 (R. W. Fawthrop, teste A. M. Morley).

FIRST RECORD, 1803: Erith, ♂ and ♀, beaten out of an oak tree by Hatchett, in late July 1803 (Haworth, *Lep. Britannica*, 1: 97).

#### **L. capucina L. (*camelina* L.): Coxcomb Prominent.**

Native. Woods, copses, etc.; on birch, oak, hazel, alder, sycamore, sallow, beech, Spanish chestnut, white poplar. Found in all divisions except 15; is frequent, but apparently never very plentiful. "Generally distributed and not scarce" (V.C.H. (1908)).

The species is regularly double brooded in Kent, moths of the first generation appearing in May or late April, to early June; and those of the second emergence, in July and August. The two broods appear roughly in about equal numbers.

The larva is perhaps most often found on birch and oak. It has also been found on hazel, at Reinden Wood, July 7, 1928, on beech, at Westwell, September 18, 1932, on Spanish chestnut, at Whitehill Wood, near Bridge, September 24, 1932, and on sallow, in a Folkestone garden, August 25, 1946 (A. M. Morley); on alder, at Edenbridge, 1933 (F. D. Greenwood); on sycamore, at Culverstone, 1924 (F. T. Grant); on sallow, at Blean, 1957 (A. S. Wheeler); and on white poplar, Petts Wood, 1959 (D. R. M. Long).

VARIATION.—G. V. Bull (*Diary*) describes as "melanic", one taken, Sandhurst, May 7, 1930, and another as "very dark", taken Sandhurst, August 25, 1953. A ♂, taken by me, Ham Street, June 5, 1954, has dark greyish-brown forewings, and greyish hindwings, and is similar to the specimen figured in Barrett, *Br. Lep.*, 3: plt. 110, fig. 1d, except that there is no pale band on forewing. I have two ♂♂ transitional to the above, taken Ham Street, 1951, and have seen in collections numerous others from various parts of Kent, taken during the past fifteen

years, exhibiting varying degrees of melanism (C.-H.). In R.C.K. is an example of ab. *giraffina* Hb., bred Ashford, 1935.

FIRST RECORD, 1856: Shooters Hill (Crewe, *Ent. week. Int.*, 1: 123).

**Odontosia carmelita** Esp.: Scarce Prominent.

Native. Woods (apparently preferring birch woods where the trees are scattered amongst heather); on birch, beech. Local and fairly scarce.

1. Birch Wood (Anon., *Ent. Mag.*, 3: 310); one, April 25, 1841 (Lambert, *Entomologist*, 1: 128); one, April (1845), taken by J. Standish (Douglas, *Zoologist*, 1042). West Wickham, one, 1853, one, 1854 (Machin, *Zoologist*, 4562); there are records of over twenty specimens taken here subsequently up to 1908, but it has apparently not been noted since (cf. *Ent. week. Int.*, 1: 44, 2: 43, 85, 4: 59, 8: 51; *Ent. Ann.*, 1858: 100; *Zoologist*, 4740, 5148, 5209; *Entomologist*, 3: 87, 14: 181, 263, 27: 320; *Ent. Rec.*, 9: 154); one, April 19, 1863 (Fenn, *Diary*); one, May 4, 1868 (Stockwell coll.); 1908 (Nottle, *fide de Worms, Lond. Nat.*, 1953: 119). St. Paul's Cray, larva (A. H. Jones, in *Wool. Surv.* (1909)). Chislehurst, a larva (Fenn, teste Buckle & Prout, *Trans. C. Lond. ent. nat. Hist. Soc.*, 1898: 61), may refer to the preceding occurrence (C.-H.). Bexley district (L. W. Newman, in *Wool. Surv.* (1909)). Keston, two ♀♀, May 7, 1904 (E. Nottle coll.).

6. Gravesend, ♂ on street lamp, April 25, 1920 (F. T. Grant). Pinden, one, April 28, 1952, one in m.v. trap, May 10, 1956 (E. J. Hare).

6a. Darenth Wood (Stephens, *Haust.*, 2: 28); May 1855 (Harding, *Zoologist*, 4820). Dartford\* (*V.C.H.* (1908)).

7. Chilham\*, one, May 4, 1914, two, April 15, one, April 18, three, April 20, 1920 (H. G. Gomm coll.).

10. Seal Chart (Carrington, *Entomologist*, 13: 79). Brasted, ova on birch (R. M. Prideaux). Crockhamhill, near Westerham, two at light, May 1, 1946 (R. C. Edwards)..

11. Wateringbury, one larva by E. Goodwin, which fed on beech in preference to birch, and ten others by W. A. Cope and T. Blest, all taken August 1903, crawling up beech trunks (Goodwin, *Entomologist*, 36: 288 and W. A. Cope); several (E. Goodwin coll.). Two, labelled "Bred 7.4.06 Mid Kent", and one, "Bred 9.4.06 Mid Kent", given me by G. L. Keynes, probably came from Goodwin, and originated from Wateringbury (C.-H.). Sevenoaks Weald, two ♂♂, at m.v., April 24, 25, 1960 (E. A. Sadler).

12. Ham Street Woods.—♂, May 5, 1934, two ♂♂, April 27, May 4, 1935 (A. M. Morley); one, E. Scott, April 27, 1935, one, by A. G. Peyton, May 26, 1935 (A. M. Morley); about six taken 1935 (Scott (1936)); ♂ taken by W. Stickles, May 1, 1937 (A. J. L. Bowes); ♂, April 25, ♂, May 5, 1939, ♂, May 7, 1956 (C.-H.); one, May 1, 1939 (C. G. M. de Worms); two, April 29, four, April 30, 1955 (P. B. Wacher); two, May 8, 1956 (D. G. Marsh); three, 1957 (P. Cue). Note: So far as I am aware, all Ham Street *carmelita* have occurred along or near the southern or eastern edge of Long Rope, and were at light (C.-H.).

14. Tenterden, one, 1959 (C. G. Orpin).

FIRST RECORD, 1828: Darenth Wood, two about sixteen years back (i.e., c. 1812) (Stephens, *Haust.*, 2: 28).

**Ptilophora plumigera Schiff.: Plumed Prominent.**

Native. Woods and hedges on chalk; on maple, sycamore. Local, but doubtless distributed in many more places in the downland areas of 6, 7 and the western portion of 8, than the records show. The principal pabulum is maple, and in only one locality (Well Shave Wood, near Wye) is it known to occur on sycamore.

1. Birch Wood, larvae found by J. Standish (Curtis, *Br. Ent.*, 328). Blackheath (West, *Ent. Rec.*, 18: 200).

6. Gravesend, two, November 2, 1907, one, November 30, 1908, all on street lamps (H. C. Huggins). Otford, larva; Trottescliffe, larva (W. A. Cope). Wrotham, a larva (E. Goodwin, *teste* Goss, in *V.C.H.* (1908)). Eynsford, three larvae, beaten from maple, 1912 (S. F. P. Blyth). Shoreham Rifle Range, thirty-six ♂♂ at light, November 23, 1937 (D. G. Marsh); nine larvae beaten from maple in about two hours, June 14, 1951, and twenty beaten in one day a few years previous to that (W. A. Cope); three ♂♂, at light, November 13, 1955 (C.-H.).

6a. Darenth Wood (Stephens, *Hast.*, 2: 29). Chattenden, imago taken by A. B. Farn (H. Goss, in *V.C.H.* (1908)).

7. Between Luton and Great Cowbeck Woods, ♀, November 23, 1856 (Chaney, *Substitute*, 89). Bluebell Hill, a larva (W. A. Cope). Chilham\*, 1914 (H. G. Gomm). Westwell, singletons, November 2, 10, 15, 1935, taken by E. Scott, C. G. M. de Worms, A. M. Morley, two at lighted window, November 14, 1946 (A. M. Morley); annually, also larvae from maple, June 5, 1948 (Scott (1950)) (E. J. Hare).

8. Folkestone\*, 1892 (Austen, *Proc. Folkestone nat. Hist. Soc.*, 1892: 26). [Eastry] ♀, at light, December 2, 1904 (Lister, *Ent. Rec.*, 17: 22). Reinden Wood, a larva on maple, June 14, 1938 (A. M. Morley). Brook, one, 1930, one, 1934 (Scott (1936)); bred from larvae, 1936 (C. A. W. Duffield, *teste* E. Scott); ♂, at light, November 10, 1934 (A. M. Morley); ♂, October 24, 1939 (C.-H., *Entomologist*, 72: 22); ten, November 13, 1960 (de Worms, *Entomologist*, 94: 165). Wye Old Race Course, ♂, October 31, 1937 (E. Scott); nearly forty taken by various collectors, November 1937 (A. J. L. Bowes); over forty (apparently all ♂♂) taken by various collectors in Well Shave Wood at light, November 1938, five larvae beaten by me from sycamore in two hours, June 4, 1948 (C.-H.); one, November 26, 1960 (R. G. Chatelain). Crundale, a larva, June 9, 1946 (H. King). Waltham, four ♂♂, at light, 1954 (J. W. C. Hunt). Hastingleigh, larvae on maple, 1954 (B. K. West). Near Barham, one, December 2, 1945 (E. & Y. (1949)). Wye\*, one taken January 1, 1948, by C. A. W. Duffield (E. Scott).

12. Wye, seven, November 7-25, 1953, four, November 4-25, 1954, ten ♂♂, November 4-21, ♀, November 11, 1955, thirty, November 10-21, 1956 (W. L. Rudland).

[13. Broadwater Down (Given (1946)).]

**VARIATION.**—East Kent (Wye, Brook, Waltham, Hastingleigh, Westwell) ♂♂ have pale reddish-ochreous (less ochreous and more rust-red in some specimens) nearly *unicolorous* forewings, hindwings paler; West Kent (Shoreham) ♂♂ are very distinct from the foregoing, with forewings *variegated* with brownish-rust, grey, and ochreous, and have pale greyish hindwings. ♀♀ from East and West Kent appear indistinguishable except that the latter are a trifle darker and have a slightly more variegated forewing (C.-H.).

The following abs. are in R.C.K.:—*flavescens* Smith, ♂, bred 1905, from "Kent parents", ♂, Shoreham, 1903, two ♂♂, N. Kent, 1905; *variegata* Vill., several ♂♂, bred N. Kent, 1911; *saturatior* Rebel, ♂, Wye, 1937, ♀ ♂, N. Kent, 1904, 1905, ♂, 3 ♀♀, Shoreham, 1902-3, ♀, bred, "Bexley, 1904"; *obscurior* Schwing, ♀, N. Kent, 1904, ♀, Shoreham, bred 1902; *nigricans* Smith, ♂, bred, "Bexley, 1911"; *unicolor* Smith, ♂, bred N. Kent, 1905, two ♂♂, bred N. Kent, 1911.

FIRST RECORD, 1828: "Far from common; but met with nearly annually in the larva state at Darenth-wood . . ." (Stephens, *Haust.*, 2: 29).

### **Pterostoma palpina** Clerck: Pale Prominent.

Native. Woods, marshes; on poplar, aspen, sallow. Found in all divisions, except 9. Not uncommon; frequent in the woods of the Weald.

First generation moths appear in May and June; those of the second brood (perhaps partial only) in late July and August.

Ova have been found on aspen, at Brasted (R. M. Prideaux); on poplar leaves, Chevening, May 25, 1912, imagines reared, August 1912, April 1913 (Gillett, *Diary*). Larva on sallow, West Wickham (Huckett, *Ent. week. Int.*, 10: 117); on black poplar, West Wickham (Meek, *Ent. mon. Mag.*, 1: 191); on willow, Tonbridge, small numbers, 1951 (H. E. Hammond).

VARIATION.—A ♂ and ♀, taken Ham Street, May 1950 and May 1951 respectively, show definite melanic tendencies, the ♀ in particular being somewhat dusky (C.-H.).

According to Seitz (*Pal. Bomb. & Sphinges*, 308), second brood specimens are smaller than those of the first brood, and of a "light straw-colour". Despite this statement, however, I cannot find any distinguishing features at all to separate first and second generation specimens in my series from various Kentish localities (C.-H.).

FIRST RECORD, 1828: Birch and Darneth Woods (Stephens, *Haust.*, 2: 28).

### **Phalera bucephala** L.: Buff-tip.

Native. Woods, plantations, bushy places, etc.; on lime, oak, sallow, poplar, birch, elm, hazel, apple. Found in all divisions. "Generally abundant" (V.C.H. (1908)).

Apparently single brooded, with a continuous emergence from May to August. Fairly common at light, and occasionally seen on walls, fences, and on tree trunks pretending to be broken twigs.

The species is much more often seen as a larva, which in towns seems to show a preference for lime, but in rural districts is perhaps most frequently noted on oak, sallow, poplar and birch; it has also been found feeding on hazel by B. O. C. Gardiner, at Dover, and on apple as well as hazel, by A. M. Swain, at Petts Wood. Sometimes the larvae have been noted in vast numbers; thus for example, Newman (*Br. Moths*, 221) recorded that in his neighbourhood [New Cross], they were collected as food for poultry; C. R. Haxby and J. Briggs saw them in hundreds, on August 16, 1960, stripping a sallow tree on Romney Marsh; and A. M. Morley states that they swarmed (in September 1929) on small elm trees, on the Canterbury Hill, Folkestone, a great many of which were collected by L. W. Newman.

VARIATION.—The following two abs. are in R.C.K.:— *tenebrata* Strand, one, N. Kent, 1915; *tenebricosa* Stertz, one, bred Bexley, 1940. Also, a remarkable "double forewing", found by H. G. Webster, in Hurst Woods, Bexley, July 11, 1919 (the other wings could not be found, so that it was "evidently the work of a lat").

FIRST RECORD, 1858: Lewisham (Perkins, *Ent. week. Int.*, 4: 141).

**Closteria curtula** L.: Chocolate-tip.

Native. Woods, parks, etc.; on aspen, poplar, willow. "Scarce" (*V.C.H.* (1908)). "Probably more frequent in Kent than anywhere else" (Barrett, *Br. Lep.*, 3: 169).

1. Near Eltham, larvae (Crewe, *Ent. week. Int.*, 1: 60). Lewisham (Perkins, *Ent. week. Int.*, 4: 141). Charlton (Jones, *Ent. week. Int.*, 6: 67). Farnborough, larvae (Alderson, *Ent. Rec.*, 12: 248). Bromley (*V.C.H.* (1908)). West Wickham (*V.C.H.* (1908)); third brood (Edwards, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1947-48: 25); 1947 (R. Birchenough). Shooters Hill; Holwood\*; Keston; Greenwich Park; Mottingham (*Wool. Surv.* (1909)). Bexley (*Wool. Survey.* (1909)); ♂, 1946 (B. K. West); two, May 3, 1952 (A. Heselden). Chislehurst, larvae, August-September 1928, August 1929 (S. F. P. Blyth). Farningham Wood, larva, September 11, 1937 (A. R. Kidner). Petts Wood, frequent, 1947-48; one, 1949, none, 1950 (A. M. Swain); larvae, c. 1955 (R. G. Chatelain). Orpington, one, 1956 (R. G. Chatelain). Petts Wood, St. Mary's Cray and Orpington, 1947-57 (L. W. Siggs, in *de Worms, Lond. Nat.*, 1958: 43). Bromley, 2 larvae, on aspen, June 6, 26, 1949 (D. Lanktree). Petts Wood, larva on white poplar, August 23, 1959; Crofton, larva on aspen, August 28, 1960 (D. R. M. Long).
2. Green Street, near Faversham\* (R.C.K.). Abbey Wood Marshes, 1947 (A. J. Showler).
3. Near Canterbury\*, larvae on willow (Vaughan *in litt.*, teste Knaggs, *Ent. Ann.*, 1866: 152). Chestfield, two, August 17, 1939 (P. F. Harris). Herne Bay, ♂, May 22, 1953; Blean Woods, one at light (D. G. Marsh).
5. Westerham (R. C. Edwards).
6. Greenhithe (A. B. Farn MS.). Harvel, larvae, August 29 and September 24, 1938 (F. T. Grant).
- 6a. Darenth Wood (Harding, *Ent. week. Int.*, 1: 76) (H. C. Higgins); larvae, 1939 (Attwood, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1939-40: 40). Lords Wood, scarce (E. J. Hare).
7. Boxley, 1953 (A. H. Harbottle).
8. Walmer (E. & Y. (1949)). Dover, larvae on poplar, September 15, 1943, from which two imagines reared (B. O. C. Gardiner).
10. Brasted, ova (R. M. Prideaux); larvae, September 28, 1912, larva, 1913, larva, 1914 (Gillett, *Diary*). Sevenoaks (Gillett, *Entomologist*, 53: 23).
11. Tonbridge (Rattray, *Entomologist*, 45: 80); 1947 (D. Lanktree). Hoards Wood (Scott (1936)); one larva, August 28, 1947 (Bull, *Diary*); three, May 14, 1956 (W. L. Rudland). Aylesford (G. A. N. Davis). Betherden, three, August 15-20, 1960 (C. R. Haxby & J. Briggs). Sevenoaks Weald, larvae on willow, July 14, from which an imago emerged August 1, 1959 (E. A. Sadler).
12. Ham Street, two ♂♂, May 1933, two ♂♂, May 1934 (A. M.

Morley); July 24, 1934, May 3, 1937 (A. J. L. Bowes); two, May 9, three, May 14, 1939, one, May 25, 1947, nine, May 12-13, 1951, all ♂♂ at light in Long Rope (C.-H.); 1958-59 (de Worms, *Entomologist*, **92**: 69, **93**: 158); four, May 6, 1960 (R. G. Chatelain). Ashford, May 11, August 12, 1953 (P. Cue, teste E. Scott). Brook\* (C. A. W. Duffield, teste E. Scott). Wye\* (Scott (1936)). Wye, two, 1953, one, 1954, one, 1955; Willesborough, two, 1954, two, 1956 (W. L. Rudland).

13. Tunbridge Wells, larvae, 1911-12; Bidborough, 1912; Groombridge (E. D. Morgan). Goudhurst, two, 1953 (B. G. Chatfield); fairly common at light (W. V. D. Bolt). Tunbridge Wells, one, 1959 (L. R. Tesch, *fide* C. A. Stace); three, 1959 (C. A. Stace).

14. Appledore, a larva on poplar, September 15, 1932; Benenden, larvae, October 3, 1938 (Bull, *Diary*). Hawkhurst, three at light, 1953 (B. G. Chatfield).

16. Lower Sandgate Road, Folkestone, larvae on balsam poplar, autumn 1862 (Briggs, *Entomologist*, **14**: 133); larva (Ullyett (1880), 9). Folkestone\* (Ullyett, *Simpson's Handbook to Folkestone* (1871)), may be the basis of the preceding record (C.-H.). Folkestone Town, a larva on poplar, September 28, 1935; one at light by A. G. Riddell, June 1951; ♂, ♀, by R. W. Fawthrop, 1954; one, May 5, 1952, ♂, ♀, May, 3 ♂♂, August 1953, 2 ♂♂, August, ♂, September 19, 1954, ♂, July 31, 1957 (A. M. Morley).

**VARIATION.**—Robinson (*Ent. Rec.*, **2**: 36; *Proc. S. Lond. ent. nat. Hist. Soc.*, 1890-91: 109) records a striking aberration, *webbiana* Rebel, having forewing deep greyish chocolate with three transverse white stripes, six specimens of which were obtained by Bird in 1876, from George Ray of Sittingbourne.

In R.C.K. are the following abs.:—*rufescens* Lempke, several, Bexley; *brunnescens* Lempke, four; *webbiana* Rebel, seven, bred "Green Street near Faversham", one, bred, N. Kent, June 1900. Also, a most remarkable specimen, being a gynandromorph, right side ♀, ab., *brunnescens* Lempke, left side ♂, ab. *webbiana* Rebel, bred Green Street near Faversham (it appears that this was the specimen exhibited at the National Entomological Exhibition, Royal Aquarium, Westminster, March 9-23, 1878, and figured in *Entomologist*, **11**, plt. 2, fig. 1 (C.-H.)).

**FIRST RECORD.** 1856: Near Eltham (Crewe, *Ent. week. Int.*, **1**: 60).

#### C. *anachoreta* Schiff.: Scarce Chocolate-tip.

Probable immigrant. Plantations, etc.; on *Populus*, *Salix*. Only recorded from E. and S.E. Kent (div. 4, 8, 12, 15, 16), and mainly coastal. Perhaps temporarily established in the Folkestone area between 1858-64.

1858-1862.—Newman (*Zoologist*, 7681-2) wrote:—"This beautiful larva was first found by my friend, Mr. Sidney Cooper, feeding as he believes on *Salix caprea* (sallow) . . . Mr. Cooper only took two specimens, not being aware of the value of his capture until the perfect insect emerged". Cooper (*Entomologist*, **21**: 112) recording the circumstances of his capture, observed that in 1859, "specimens were obtained by me from larvae which fell to my net whilst beating the sallows in a field near Saltwood, in Kent" (div. 16). According to Barrett (*Br. Lep.*, **3**: 171), Cooper took his larvae in June 1858.

In June 1859, H. G. Knaggs found eleven larvae feeding on Ontario poplar in one of the plantations along the Lower Sandgate Road, Folkestone (div. 16), ten of which reached the imago state the same year. Altogether eleven *anachoreta* were bred by Knaggs in 1859, one emerging from "a pupa found by a friend" (Knaggs, *Zoologist*, 6733; *idem, Proc. ent. Soc. Lond.*, 1859: lxxvii; *idem, Ent. week. Int.*, 6: 204; *idem, Qfly. J. Folkestone nat. Hist. Soc.*, 1869 (4) 73; *idem, Ent. Ann.*, 1864: 130; Barrett, *Br. Lep.*, 3: 171)<sup>1</sup>

T. H. Briggs (*Entomologist*, 14: 133-4) records that in September 1861, his father found a larva of *anachoreta*, "feeding on poplar in some small plantations below Westcliff, Folkestone" (div. 16); and that in the autumn of 1862 at this locality, he and his brother, C. A. Briggs, found twelve larvae, and a further larva there in October 1863. In the same communication, it is stated that in the latter month, the Briggs brothers turned down eighty-four full-fed *anachoreta* larvae at various places on these plantations, but that they never saw the species again there, although they were at Folkestone every autumn up to the time of writing (May 1880). Auld (*Entomologist*, 26: 114) suggested its disappearance was due to the effect of a terrific gale which took place on December 19, 1863, and which according to the *Folkestone Chronicle* of that date, "blew the plantations to smithereens", and on to the beach. C. A. Briggs (*Entomologist*, 21: 90) states that four species of poplar grew in these plantations: the white, black, the Lombardy, and the balsam, but that *anachoreta* was confined to the balsam poplars.

A larva was found at Folkestone by J. Sidebotham, in June 1863, "very near the place" where Knaggs took his (Sidebotham, *Zoologist*, 8694; Knaggs, *Ent. Ann.*, 1864: 127); and in mid July 1864, two larvae were found feeding upon Ontario poplar, by E. Meek, in one of the plantations on the Lower Sandgate Road, Folkestone (Meek, *Ent. mon. Mag.*, 1: 123).

1875-1912.—1876: Deal, one emerged, May 8, from a pupa found by S. Norman "behind the loose bark of a pollard willow, no poplar being near" (Norman, *Entomologist*, 9: 232, 14: 160). [1876]: Two imagines found on pavement [at Deal] by Mr. Harbour (Norman, *Entomologist*, 9: 232). 1878: "In 1888, a single example of *C. anachoreta* (and a variety too) was bred from a cocoon found upon a wall at the back of the Folkestone Road, Dover" (Webb, *Entomologist*, 26: 79). 1900: "Folkestone, bred 1900", numerous specimens so labelled (R.C.K.). 1901: Walmer, over forty ova, in two clusters, found by G. Murray, on balsam poplar in June, from which he bred a series (Bloomfield, *Ent. mon. Mag.*, 37: 276). 1902: One, "Folkestone, bred 1902, E.G." (R.C.K.). 1906: One, "Ashford, 1.v.06" (R.C.K.). 1907: Romney (div. 15), one bred by C. Holmes in 1907, from larva found at Romney (Symes, *Ent. Rec.*, 74: 67). Minster (div. 4), J. W. C. Hunt showed me a ♂, which his brother, R. P. A. Hunt, took at rest on a tarred fence outside Minster railway station, August 1908 (C.-H.). Hythe, one bred by C. Holmes, in 1908, from a larva found at Hythe (Symes, *Ent. Rec.*, 74: 67)<sup>2</sup>. 1910: I have 2 ♂♂, 2 ♀♀, from the late W. Quibell coll., labelled as from "Dr. Heath's stock, A. E. Wright", and bred, Lydd (div. 15), April 19, 24 (two), 28, 1910 (C.-H.). 1912: Deal neighbourhood, from two larvae found September 1912, two imagines emerged, spring 1913 (Browne, *Entomologist*, 49: 67).

1951-1953.—1951: Dover, ♂, taken at light, August 8, by G. H.

Youden (Youden, *Entomologist*, **84**: 261; *idem*, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1951-52: 47). 1953: Lydd, ♂, taken at light, August 9, by G. F. Johnson (Johnson, *Ent. Rec.*, **65**: 291).

VARIATION.—The only example of variation in this species known to me, is that mentioned by Webb (*Entomologist*, **26**: 79) as bred in 1888, but of which he unfortunately gave no description (C.-H.).

FIRST (PUBLISHED) RECORD, 1859: Knaggs (*Zoologist*, 6733).

<sup>1</sup>The genuiness of Knaggs' *anachoreta* was questioned by the Rev. Joseph Greene, and some animated correspondence ensued, *vide Entomologist*, **14**: 117, 133, 160, **21**: 31, 90, 112, **26**: 40, 76, 79, 111, 114, 136, 163, **29**: 163.

<sup>2</sup>Referring to the two *anachoreta* which Holmes gave him, H. Symes (*in litt.*) writes: "I am quite sure that they are not the only ones Holmes had, but that there was a series of bred specimens in his collection. I am almost certain that he told me he had found the larvae not by chance discovery, but by deliberate search in an area where it was well known the species formerly occurred".

### C. *pigra* Hufn. (*reclusa* F.): Small Chocolate-tip.

Native. Woods, plantations, commons, carr; on *Populus* (apparently mainly on *P. tremula*, and with a marked preference for very young trees), *Salix*.

OBS.—The species seems to have a natural diurnal flight. Thus, at Long Rope, I took a ♀, which was flying rapidly in the late afternoon sun, June 1, 1950; and in the same locality, M. Singleton took a ♂ in May 1960, which was "flying in daylight" (C.-H.).

1. Birch Wood (Stephens, *Haust.*, **2**: 13); larvae on "dwarf poplar", 1841 (Douglas, *Entomologist*, **1**: 358). Crown Woods, near Shooters Hill, larvae on aspen, June 23, 1855 (Crewe, *Zoologist*, 4953). West Wickham, larvae on sallow, June 17, 1865 (Cole, *Ent. Ann.*, 1866: 152); larva, 1948 (de Worms, *Lond. Nat.*, 1953: 120). Bexley (*Wool. Surv.* (1909)); larvae, 1911-12 (A. R. Kidner) (L. T. Ford). Sidcup, larvae, September 19, 1915, 1918, larvae on sallow, September 24, 1927; imago, May 24, 1930; St. Pauls Cray Common, larvae on poplar, September 28, 1910, September 2, 1911 (A. R. Kidner). Chislehurst, larvae (S. F. P. Blyth). Farningham Wood, larva, September 11, 1937 (A. R. Kidner). Petts Wood, 1947, frequent larvae on aspen (A. M. Swain); two, 1947, two, 1948; all at light (E. Evans). Sparrow Common (Haynes, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1950: 88).

3. Near Canterbury\*, larvae on poplar, September 1865 (Vaughan, *Ent. Ann.*, 1866: 152); Blean Woods, nineteen larvae on small aspens, June 23, 1928 (A. M. Morley). Mincing Wood, larvae common on aspen, June 1933, 1936; also on sallow (A. J. L. Bowes). Honey Wood, three larvae on aspen, June 12, 1947 (C.-H.).

4. Deal\* (E. & Y. (1949)). Ham Fen, a larva on mature aspen, 1955 (C.-H.). Ickham, one, at m.v., August 1, 1959 (D. G. Marsh).

5. Westerham (R. C. Edwards).

6. Greenhithe\* (Farn MS.).

6a. Darent Wood (Stephens, *Haust.*, **2**: 13); 1860 (Huckett, *Ent. week. Int.*, **10**: 51); larvae plentiful on poplar, September 1909; larvae, September 25, 1910 (A. R. Kidner); fifteen larvae, on aspen, October 4, 1924 (F. T. Grant) (L. T. Ford).

8. Reinden Wood, four larvae on "dwarf aspen", July 7, 1928; 1930 (Morley (1931)). West Wood, five larvae on young poplars, June 24, 1932 (A. M. Morley).

11. Wateringbury, scarce (*V.C.H.* (1908)). Benenden (Bull, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1940-41: 15). Hoads Wood (Scott (1936)); larvae on sallow, 1953 (P. Cue). Aylesford (G. A. N. Davis).

12. Ham Street (Scott (1936)); imagines at light, April 13, 1938, May 12, 1951; larvae fairly numerous on young aspens in Birchett and Long Rope, May 1946, May 1947, from which imagines emerged in July 1946 and July 1947 respectively (C.-H.); four, May 6, 1960 (R. G. Chatelain). Brook, larvae, August 1948 (C. A. W. Duffield, teste E. Scott). Ashford (Scott (1950)).

13. Pembury (Stainton, *Man.*, 1: 127). Tunbridge Wells, common (E. D. Morgan).

14. Marsh Quarter near Sandhurst, larvae, June 8, 1943 (Bull, *Diary*).

16. Folkestone, larvae on balsam poplar, autumn 1862, on Lower Sandgate Road (Briggs, *Entomologist*, 14: 133) (Ullyett, *Simpson's Handbook to Folkestone* (1871)) (Ullyett (1880), 9).

**VARIATION.**—My series of second generation specimens are quite distinct from those of the first; the second brood examples being altogether paler, and with a somewhat washed-out appearance, whereas those of the first are richly coloured and brightly marked (C.-H.).

Sich (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1906-07: 65, 66) exhibited a "very beautiful and strongly marked form", and included a lengthy description of the specimen; it was bred from a larva taken from aspen, Chislehurst, September 16, 1905.

**HYBRIDIZATION.**—Hybr. *proava* Standf. (*C. curtula* ♂ × *C. pigra* ♀). In R.C.K. are numerous specimens from Kent, but these are probably artifacts.

Hybr. *inversa* Tutt (*C. pigra* ♂ × *C. curtula* ♀). Numerous specimens in R.C.K. from Bexley, probably artifacts.

**FIRST RECORD**, 1828: Stephens (*Hast.*, 2: 13).

[**(Thaumetopoea pityocampa** Schiff.

Very doubtfully genuine.

10. W. Peyton (*Entomologist*, 7: 82) records that, at Seal Chart, on March 4, 1874, he found larvae "feeding in batches, under cover of a white web, on some fir trees".

13. T. Batchelor (*Entomologist*, 7: 81) records that, on February 15, 1874, he found larvae, in a wood of pine trees called Ashew Wood, situated some distance along the Penshurst Road; and added that the firs were being cut down, and that he found the larvae on the top and upper branches of the fallen trees.

Note: In both the above cases, the larvae were determined by Doubleday as being those of *pityocampa* (cf. Newman, *Entomologist*, 7: 82).)]

[**T. processionaea** L.

Very doubtfully genuine.

13. Ashour Wood.—"About the middle of last June (1873) I found a quantity of pupae . . . concealed among the twigs and rubbish of an old magpie's nest built in a tall pine-tree . . . one has just yielded me a moth, which appears to me to be a small variety of *B. processionaea*; there are about fifty pupae in all" (T. Batchelor, *Entomologist*, 6: 487).)]

## THYATIRIDAE

**Habrosyne pyritoides** Hufn. (*derasa* L.): Buff Arches.

Native.<sup>1</sup> Woods, etc.; on bramble. Apparently never abundant, though frequent, particularly at m.v., and recorded from all divisions. Perhaps casual in 15. "Scarce" (V.C.H. (1908)).

In 1952, the moth was noted at Bexley as early as May 30 (A. Heselden); and in 1954, at Wye, as late as August 15 (W. L. Rudland); there appears, however, to be only one generation.

The larva has been taken on bramble at Darenth Wood, October 11, 1924 (F. T. Grant), and at Ham Street, September 15, 1951 (C.-H.).

15. Dungeness, 1957 (S. Wakely); July 7, 1959 (C. R. Haxby, *fide* A. M. Morley).

FIRST RECORD, 1829: Darenth Wood, occasionally (Stephens, *Haust.*, 3: 48).

<sup>1</sup>There is some indication that it may also be migratory. Thus, one was taken July 23, 1954, on the North Goodwin Light Vessel, 7 miles off Ramsgate (T. Rouget, *fide* French, *Entomologist*, 88: 129).

**Thyatira batis** L.: Peach Blossom.

Native. Woods; on bramble. Found in all divisions, except 9. Perhaps casual in 15.

A partial second generation may occasionally occur. Thus, Vinall (*Entomologist*, 36: 267) records one at sugar, September 9, 1903; Fenn (*Diary*), noted a few at West Wickham, August 24, 1861; and E. A. Sadler observed it at Sevenoaks Weald, August 21, 24, 1959, also there the same year on May 11, an exceptionally early date.

Though usually rather uncommon, the moth has very occasionally been observed plentifully. Beeching (*Ent. Rec.*, 2: 229) records that in 1891, at Tunbridge Wells, it "swarmed at sugar"; and at Den Grove, near Sturry, at about 10.30 p.m., on June 26, 1940, I took ten, all hovering about and settling on a damaged oak trunk, from which sap was oozing (C.-H.).

The larva appears to be very seldom noted, despite its rather curious appearance, and the only record I have is that of H. C. Huggins (*in litt.*), who states that he found two or three on bramble at Bysing Wood (div. 3), where he adds the moth was common.

15. Dungeness, one, August 16, 1933 (A. M. Morley).

VARIATION.—Alderson (*Ent. Rec.*, 2: 108) records one that he took in 1890 [at Farnborough], "evidently fresh from pupa, but instead of possessing the usual pink-tinted blotches, they are all of delicate brown, without (or to speak more correctly, having the faintest tinge of) pink".

One of my specimens from Den Grove, 1940, is referable to ab. *juncta* Tutt (C.-H.). In R.C.K. are: ab. *indecorata* Turner, one, bred, Charing, July 1918; ab. *juncta* Tutt, two, bred, Charing, July 1918.

FIRST RECORD, 1829: Darenth Wood, 1820 (Stephens, *Haust.*, 2: 156).

**Tethea ocularis** L. (*octogessima* Hübn.): Figure of Eighty.

Resident.<sup>1</sup> Woods, etc.; on *Populus tremula*, *P. nigra*, [*P. italicica*].

The species first appeared in div. 1 in 1900, since when it has gradually extended its range eastwards, but up to 1929, was still scarce and only known from W. Kent. Has been noted far more plentifully since

about 1946, and at the present time is apparently rather well distributed and locally not uncommon.

1. Bexley district, ♀ drying wings on Lombardy Poplar trunk, June 20, 1900 (Newman, *Ent. Rec.*, 12: 218); one, June 1909, L. W. Newman (R.C.K.); ♀ emerged May 15, 1952, from wild pupa, October 20, 1951 (J. F. Burton) (L. T. Ford); two at m.v., June 13—July 20, 1952 (A. Heselden). West Wickham, one at sugar, June 9, 1926 (Wakely, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1930-31: 75); 1951 (E. Trundell); two, at m.v., July 7, 1958, including one melanic (C.-H.). Bromley, one, June 1920 (W. A. Cope; typical ♀, bred 1927, W. A. Cope (D. G. Marsh coll.). Sidecup, a pupa, September 1924; one at sugar, July 2, 1925; one, at light, June 24, 1936; one, at light, June 27, 1937 (A. R. Kidner). Petts Wood, one, 1948 (E. Evans); larva on aspen, 1951 (A. M. Swain). Chislehurst, took about half-a-dozen larvae, 1929-30 (S. F. P. Blyth). Abbey Wood (Juby & Hards (1925)), at light, 1952 (A. J. Showler). Greenwich Park; Bexley; Joydens Wood (D. F. Owen, in de Worms, *Lond. Nat.*, 1953: 122). Orpington, 1953 (L. W. Siggs); noted about six in 1957 at m.v., "including, on July 3, the only melanic I have encountered" (R. G. Chatelain). Blackheath, not rare at m.v., 1959 (A. A. Allen). Bromley, one, May 31, one, June 16, 1960, seven, 1961, including two on June 28; a larva on black poplar, August 13, 1959 (D. R. M. Long).

3. Great Hall Wood, one, at sugar, June 27, 1946 (D. G. Marsh and C.-H.). Den Grove, Sturry, one melanic, June 11, 1947 (C.-H., *Proc. S. Lond. ent. nat. Hist. Soc.*, 1948-49: 57). Broad Oak, one, June 16, 1952 (C.-H.). Herne Bay, one, 1948, one, 1951, three, 1952, one, 1953; one, melanic, June 20, 1947, two, melanic, 1951, two, melanic, 1952, two, melanic, 1953 (Marsh, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1952-53: 39; D. G. Marsh coll.).

4. Sandwich, one, June 20, 1947 (R. P. Demuth). Ickham, one, 1955, one, July 15, 1956; both typical (D. G. Marsh coll.); one, melanic, one, "semi-melanic", both 1955 (Marsh, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1955: 35).

5. Westerham, fairly numerous annually at least since c.1949; no melanics (R. C. Edwards).

6. Gravesend, about twelve on street lamps over a period of 7-8 years, c.1900-07 (H. C. Huggins); July 1, 1911, June 16, 1914, July 9, 1926 (F. T. Grant). Pinden, two, 1951, three, 1952, one, 1953; one, melanic, June 8, 1950, one, melanic, June 28, 1953 (E. J. Hare coll.). Otford, seven, June 21—July 14, 1955; twelve, May 29—July 16, 1956 (W. B. L. Manley). Eynsford, June 19, 1960 (R. G. Chatelain).

6a. Darenth (L. T. Ford); c.1948 (D. F. Owen, in de Worms, *Lond. Nat.*, 1953: 122). Lords Wood (E. J. Hare).

7. Westwell, two, 1951 (L. C. Bushby, *fide* E. Scott); one, 1953 (D. G. Marsh). Boxley, 1953 (A. H. Harbottle).

8. Brook\* (C. A. W. Duffield, in Scott (1936)). Dover, several, 1954 (B. O. C. Gardiner). Reinden Wood, one, melanic, bred September 17, 1954 (D. G. Marsh coll.).. Bettleshanger, July 6, 1957 (R. F. Bretherton).

9. St. Peters, three, June 23-25, 1948 (J. W. C. Hunt); seven, May 28—July 2, 1956; two, melanic, June 26, 1956 (W. D. Bowden).

10. Sevenoaks, June 26, 1920 (Gillett, *Diary*); three, bred, May 13, 1921, F. Gillett (R.C.K.). Brasted, one at sugar (R. M. Prideaux).

11. Aylesford, several, 1953-54 (G. A. N. Davis). Hoads Wood, 1953 (E. Scott). Sevenoaks Weald, June 11, 21, 24, July 1, 1959 (E. A. Sadler).

12. Ham Street, a larva on aspen, August 29, 1930; one, July 4, 1931; one, taken by A. G. Riddell, June 7, 1950 (A. M. Morley); 1935, 1951-53 (E. J. Hare); one, 1948 (D. G. Marsh); twelve at m.v., July 6-7, 1951, several worn specimens, end of July 1951, one, July 16, 1952; all in Long Rope Wood (C.-H.); one, July 16, 1955 (W. D. Bowden); June 30, July 7, 1956 (W. L. Rudland); one, June 16, 1956 (W. B. L. Manley); July 28, 1956 (R. F. Bretherton); July 8, 1958; 1960 (de Worms, *Entomologist*, **92**: 71, **94**: 161). Wye, two, June 15-July 14, 1955, two June 29-July 6, 1956 (W. L. Rudland). Willesborough, two, June 23-28, 1954, two, June 27-July 19, 1956 (W. L. Rudland). Ashford, June 24, 1953, July 9, 15, 1954; one, melanistic, 1955 (P. Cue). Chartham (P. B. Wacher).

13. Tunbridge Wells, one, bred from pupa, 1930 (R.C.K.). Goudhurst, two or three annually, five in 1955 (W. V. D. Bolt).

14. Sandhurst, one, bred May 26, 1931, from larva beaten (G. V. Bull). Tenterden, 1960 (C. G. Orpin).

15. Dymchurch, fifteen, of which two were melanistic, July 1952 (Wakely, *Ent. Rec.*, **65**: 42). Lydd, one, June 13, 1953 (C.-H.). Dungeness, one, 1957 (Wakely, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1957: 42).

16. Folkestone Town, one, June 30, 1950, three, July 2-3, one July 7, 1951, ♂, June 24, 1952, a melanistic ♂, June 30, 1952, ♀, June 13, 1954, ♀, July 5, 1955; one, melanistic taken by R. W. Fawthrop, 1956; one, worn, July 9, 1959 (A. M. Morley).

VARIATION.—In<sup>1</sup> 1947, a number of melanistic *ocularis* were taken in N. E. Kent, since when others have occurred in various parts of the county. The degree of intensity of darkness exhibited in these examples varies somewhat, but the only two that I possess, one from Den Grove, June 11, 1947 (apparently the first melanistic noted), the other, West Wickham, 1958, are referable to ab. *franckii* Boegl. (C.-H.).

FIRST RECORD, 1900: Bexley district (Newman, *Ent. Rec.*, **12**: 218).

<sup>1</sup>The fact that certain blackish forms (known for many years on the continent, particularly in N. France and Belgium) occurred in north-east Kent in 1947, their first appearance in the county as well as possibly in Gt. Britain, strongly suggests that *ocularis* may also be an occasional immigrant from abroad.

#### T. or Schiff.: Poplar Lutestring.

Native. Woods; on aspen. Fairly local.

A partial second generation may occasionally occur: two specimens having been taken at sugar at Ham Street, August 16, 1952 (C.-H., *Ent. Rec.*, **64**: 288).

1. West Wickham (Tugwell, *Ent. week. Int.*, **3**: 11); common at sugar, 1928-29 (S. Wakely). Shooters Hill; Eltham (*Wool. Surv.* (1909)). Bexley (*Wool. Surv.* (1909)); (L. T. Ford). Bromley (W. A. Cope). Bexley Park Woods, larva, July 18, 1915 (A. R. Kidner). Chislehurst, fairly common at sugar; three larvae, 1942 (S. F. P. Blyth). Farningham Woods, larva, September 23, 1951 (Haynes, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1951-52: 81).

3. Blean, larva; Bysing Wood, larva (H. C. Huggins). Den Grove,

two, June 25, 1938, one, June 30, 1940 (C.-H.).

5. Westerham (R. C. Edwards).

6a. Darenth (Stephens, *Haust.*, **3**: 53) (Douglas, *Zoologist*, 687) (Harding, *Ent. week. Int.*, **4**: 84); larvae in leaves of "dwarf poplar" (Meek, *Ent. mon. Mag.*, **1**: 190); larva, September 24, 1909, larva, September 25, 1910 (A. R. Kidner); two, at sugar, June 25, 1925 (F. T. Grant). Lords Wood (E. J. Hare). Mark Oak Wood\* (Chaney (1884-87)).

7. Chatham district\* (Tyrer, *Ent. week. Int.*, **7**: 4). Wigmore Wood (Chaney (1884-87)). Westwell, ♀, July 8, 1932 (Scott (1936)). Boxley (A. H. Harbottle).

8. Dover (Stonestreet, *Ent. week. Int.*, **10**: 186). Folkestone\* (Ulyett (1880)). Reinden Wood, three at sugar, July 8, 1930 (Morley (1931)); one, June 6, 1933 (A. M. Morley). Whitehill Wood, two at sugar, July 11, 1930 (A. M. Morley). Covert Wood, larva (H. C. Huggins). Elham (W. E. Busbridge).

10. Sevenoaks (W. E. Busbridge) (H. E. Hammond); one at light, 1949 (F. D. Greenwood). Seal Chart (Coote, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1937-38: 45).

11. Wateringbury (V.C.H. (1908)). Tonbridge, common (H. E. Hammond). Aylesford (G. A. N. Davis). Hoads Wood, at sugar, c. 1953 (P. Cue).

12. Ham Street, three larvae on aspen, August 29, 1930, two larvae, July 24, August 16, five imagines, July 4, 1931, one, July 8, 1933, two at sugar, July 14, one, July 20, larva, July 28, 1934, two, June 1-2, two, June 8, two, June 14, one, and one larva, July 20, 1935, five at sugar, June 23, 1948 (A. M. Morley); regular in small numbers in Long Rope, at light and sugar, between 1937 and 1960 (C.-H.); June 2-5, 1950, six at sugar, June 1, 1956, one, July 28, 1956 (R. F. Bretherton); May 31, 1958 (de Worms, *Entomologist*, **92**: 70). Wye\* (Scott (1950)). Willesborough, one at light, 1957 (M. Singleton).

14. Knock Wood (Beale, *Diary*). Sandhurst; Hawkhurst (G. V. Bull).

**VARIATION.**—A striking aberration, *permarginata* Hasebk., dark with pale marginal areas, used repeatedly to be taken at sugar in Barnfield Wood near Bromley, by the late W. A. Cope. From captured ♀♀, Cope told me he reared a number of this ab., and that it always bred true. His examples of *permarginata* in my coll., six in all, are dated 1920, 1927, 1929 (C.-H.). Wakely (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1930-31: 75) records having taken a specimen at West Wickham in 1929, which accords with *permarginata*. In R.C.K. are four *permarginata* from W. A. Cope, Bromley, one, June 1927, one 1929, one, bred, 1929, one, bred, June 1930.

**FIRST RECORD**, 1829: Stephens, *Haust.*, **3**: 53.

**T. duplaris** L.: Common Lutestring.

Native. Woods; on birch. Local and mainly among birch; but apparently occasionally among alder.<sup>1</sup>

1. Noted from many localities throughout this division. Recent records are:—West Wickham, common at sugar, 1926 (S. Wakely); July 30, 1951, one, melanic, August 4, 1954 (E. J. Trundell). Farningham Wood, two larvae, September 29, 1929, larva, September 25, 1930,

several larvae, September 11, 1937 (A. R. Kidner). Petts Wood, few annually, 1947-49, all melanic (E. Evans) (Haynes, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1951-52: 18); 1953-54, common at sugar, there being as many as 4-5 per patch (R. G. Chatelain). Plumstead Common; Abbey Wood, 1952 (A. J. Showler). Orpington, 1954 (L. W. Siggs). Bromley, three, 1959, ten, 1960, sixteen, 1961; in 1960, one was noted as late as September 3; on August 13, 1961, four were noted (D. R. M. Long).

3. Thornden Wood, one, worn, at sugar, July 29, 1865 (Fenn, *Diary*). Near Canterbury\* (Parry, *Entomologist*, 5: 394). Blean, one, July 15, 1905 (J. P. Barrett) (H. C. Huggins). Bysing Wood (H. C. Huggins). Church Wood, three, July 4, 1960 (D. G. Marsh).

6. Longfield (Jennings, *Entomologist*, 4 (54) ii). Greenhithe (Farn MS.). Stone, one, c.1950 (G. Law). Otford, three, in m.v. trap, July 15-17, 1955 (W. B. L. Manley).

6a. Darent (Stephens, *Haustr.*, 3: 52); one, June 16, 1862, four, July 1, 1865 (Fenn, *Diary*) (Carrington, *Entomologist*, 12: 211); larva, 1925 (F. T. Grant) (H. C. Huggins) (E. J. Hare). Chattenden, July 13, 1875 (Fenn, *Diary*). Mark Oak Wood\* (Chaney (1884-87)).

7. Wigmore Wood (Chaney (1884-87)). Westwell (Scott (1936)); July 22, 1946 (Bull, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1946-47: 168). Long Beech Wood, one, worn, July 29, 1939 (C.-H.). Boxley, 1953 (A. H. Harbottle).

8. Dover (Stonestreet, *Ent. week. Int.*, 10: 186); one, 1898, six, 1899 (H. D. Stockwell coll.); a few (B. O. C. Gardiner); Poulton Woods, June 27, 30, 1908 (P. A. Cardew, *Diary*). Deal\* (*V.C.H. (1908)*). Near Waldershare, very common; Ewell Minnis; Coombe Wood, St. Radigunds (E. & Y. (1949)). Folkestone (Ullyett (1880)). Reinden Wood, ♀, beaten out, July 12, 1929 (W. O. W. Edwards, teste A. M. Morley); five, at sugar, July 17, four, at sugar, July 22, 1929 (Morley (1931)). Whitehill Wood, near Bridge, three, at sugar, July 11, 1929 (A. M. Morley). Elham (W. E. Busbridge). Elham Valley, one, July 8, 1953 (D. G. Marsh coll.). Brook (C. A. W. Duffield).

10. Brasted, ♀, 1917 (Gillett, *Diary*); at light (R. M. Prideaux). Sevenoaks (Howarth, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1947-48: 31).

11. Harrietsham (Stephens, *Entomologist*, 1: 200). Wateringbury (*V.C.H. (1908)*). Shipbourne (P. A. & D. J. A. Buxton coll.). Hoads Wood (Scott (1936)); one, June 14, one, June 19, 1961 (B. K. West). Benenden, June 15, July 19, 1938, at sugar and light, July 19, August 4, 1939, August 5, 1946 (Bull, *Diary*). Tonbridge, common (H. E. Hammond). Aylesford (G. A. N. Davis); 1955, more frequent than in 1954, especially the dark forms (Davis, *Bull. Kent Fld. Cl.*, 1956, 1: 6).

12. Ham Street, three, July 8, 1933, two, July 14, 1934 (A. M. Morley); July 19, 1934 (A. L. J. Bowes) July 3, 17, 1937 (Bull, *Diary*) (Demuth, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 23); one, July 20, 1961 (B. K. West). Chatham, one, 1952 (P. B. Wacher). Ashford, one, July 14, 1954 melanic (P. Cue). Wye, one, July 15, 1955, two, July 22—August 10, 1956; Willesborough, two, July 17—August 5, 1955, four, July 19-27, 1956 (W. L. Rudland).

13. Tunbridge Wells, formerly frequent in Frant Road (E. D. Morgan). Kilndown, July 15, 1938 (Bull, *Diary*).

14. Knock Wood (Beale, *Diary*). Bedgebury, July 10, 1937, July 12, 1939 (Bull, *Diary*). Hawkhurst, one at light, 1952 (B. G. Chatfield).

15. Dungeness, one at light, July 27, 1956 (R. F. Bretherton).  
 16. Folkestone, one at m.v., July 26, 1957 (A. M. Morley).

VARIATION.—Of my fifteen Bromley specimens from W. A. Cope, dated 1927, 1929, only five are typical, the remainder being referable to ab. *obscura* Tutt (C.-H.).

FIRST RECORD, 1829: Stephens, *Haust.*, 3: 52.

<sup>1</sup>James (*Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1901: 62) recorded it as common at Eltham (div. 1) among alder.

**T. fluctuosa** Hübn.: Satin Lutestring.

Native. Woods; on birch. Local, with seemingly a preference for light soils.

1. Birch Wood (Stephens, *Haust.*, 3: 52). West Wickham, larva and imago (Machin, *Ent. week. Int.*, 1: 76); larvae beaten from birch, autumn (1863) (Meek, *Ent. mon. Mag.*, 1: 50); fine imago and full-fed larva, August 17, 1880 (Harper, *Entomologist*, 13: 219); 1892 (Wells, *Entomologist*, 25: 194); three, May 22, 1893 (Robinson, *Entomologist*, 26: 224); one, July 7, 1902, two, June 1909, one, June 1910 (E. Nottle coll.); June 6, 1910 (Mannering, *Entomologist*, 43: 204); six, June 27, 1910 (L. T. Ford); one, 1917 (Kershaw, *Entomologist*, 43: 204). Shooters Hill Wood, August 5, 1862, one seen by A. H. Jones (Fenn, *Diary*). Eltham, one, at light (Jones, in Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1901: 62) probably refers to the preceding record (C.-H.). Forest Hill, one, 1886 (Cansdale, *Ent. Rec.*, 2: 69). Farnborough neighbourhood,\* 1901 (Lawrence, *Entomologist*, 34: 355), Bexley district (Newman, in *Wool. Surv.* (1909)). Farningham Woods, one, June 5, 1952 (B. K. West).

3. Near Canterbury,\* a few specimens, July 1871 (Parry, *Entomologist*, 5: 394). Church Woods, July 1895 (S. Wacher). Bysing Wood, common, 1914, not seen since (H. C. Huggins).

6. Near Gravesend, bred, May, 1868 (Vaughan, *Ent. Ann.*, 1869: 133). Greenhithe\* (Farn MS.).

6a. Darenth Wood (Stephens, *Haust.*, 3: 52); 1844 (Douglas, *Zoologist*, 687); one, 1845 (Stevens, *Zoologist*, 1787); 1853 (Harding, *Zoologist*, 3923); larvae not uncommon (Machin, *Ent. week. Int.*, 1: 76); June 23, 1860 (Fenn., *Ent. week. Int.*, 9: 59); one, June 21, 1862 (Fenn, *Diary*); larva, autumn (1863) (Meek, *Ent. mon. Mag.*, 1: 50). Chattenden, one, July 26, 1862 (Fenn, *Diary*); 1904-06, one or two beaten out (H. C. Huggins). Chattenden district, 1905 (Ovenden, *Ent. Rec.*, 18: 17).

7. Wigmore Wood, June 14, 1864 (D. J. French, in Chaney (1884-87)). Westwell, July 15, 1934 (A. J. L. Bowes) (Scott 1936); "much rarer here since the war"; one, August 1, 1954 (E. Scott, *verbatim*, 19.xii.1954). White Hill, King's Wood, a few at light, 1935 (A. G. Peyton & E. Scott, *teste* A. J. L. Bowes) (Scott (1936)); two at light, June 20, 1936 (A. M. Morley). Long Beech Wood, about twelve worn specimens, of both sexes, at car lights, July 29, 1939 (C.-H.).

8. Dover, two, 1861 (Stonestreet, *Ent. week. Int.*, 10: 186). Folkestone\* (Ullyett (1880)). Near Barham, 1935, 1945 (E. & Y. (1949)). Elham (W. E. Busbridge); July 4, 1959 (de Worms, *Entomologist*, 93: 177).

10. Wildernesse Park (Carrington, *Entomologist*, 13: 80). Seven-

oaks (Crewdson, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1934-35: 47); two, June 21, one, July 5, 1919 (Gillett, *Diary*). Ide Hill (E. J. Hare). Brasted, imagines on fences, ova on edge of birch leaves (R. M. Prid-eaux). Westerham, larva, September 13, 1924 (Carr & Turner, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1924-25: 107). Crockham Hill, one, at light, June 30, 1951 (R. C. Edwards & C.-H.). Goodley Stock, five, June 30, about 30 at light, July 6, 1956 (C.-H.).

11. Wateringbury, two, 1906, one, 1908, one, 1911 (E. Goodwin coll.). Near Tonbridge, common at light in a wood, 1939 (H. E. Hammond). Aylesford, not uncommon at m.v., 1951-55 (G. A. N. Davis). Park Wood, near Detling, three on a street lamp, June 24, 1961 (B. K. West).

12. Willesborough, one, August 3, 1954; Wye, one, June, 21, one, July 21, 1956 (W. L. Rudland). Ashford Town, one, at m.v., in garden, June 25, 1955 (P. Cue). Ham Street, melanic ♂, June 15, 1955 (G. H. Youden).

13. Millers Wood, Pembury, 1856 (Weir, *Zoologist*, 5208; *idem, Ent. week. Int.*, 1: 124). Tunbridge Wells, 1894, several, 1895 (Beeching, *Entomologist*, 27: 351; *idem, Ent. Rec.*, 7: 113); one, 1915 (C. G. M. de Worms). Broadwater Down, two (A. L. Townsend, in Knipe (1916)). Southborough district (M. M. Phipps, in Knipe (1916)). Kilndown, July 10, 27, 1937; Bedgebury, June 22, 1938 (Bull, *Diary*).

14. Knock Wood, Tenterden, 1856 (Beale, *Diary*). Benenden Woods, June 10, 15, August 25, 1938, July 19, August 17, 1939 (Bull, *Diary*).

**VARIATION.**—In R.C.K. are two ab. *albilinea* Ckne.:—allotype ♀, West Wickham, H. W. Barker (*Ent. Rec.*, 63: 30), one, N. Kent, June, 1908, L. W. Newman.

A remarkable ab., and the only example of this rather constant species ever to have been recorded from the much-worked Ham Street Woods, is described by its captor, G. H. Youden, as “melanic with no markings”.

**FIRST RECORD**, 1829: Stephens, *Haust*, 3: 52.

#### ***Asphalia diluta* Schiff.: Lesser Lutestring.**

Native. Woods; on oak. Recorded from all divisions, except 16 (probably present), 2, 4. Perhaps casual in 9, 15. Apparently rather scarce in 8. “Common in many places” (V.C.H. (1908)).

**Note:**—The moth is occasionally extremely plentiful. Thus, Stevens (*Zoologist*, 334) records it as abundant at Birch Wood (div. 1) in September 1843; Carr (*Entomologist*, 31: 295) states that it was in great abundance at sugar at Bexley in 1898; and de Worms (*Entomologist*, 90: 181) observed it as particularly plentiful at Hoads Wood (div. 11), in 1956. It is usually fairly common at Ham Street, but on September 21, 1957, R. F. Bretherton noted seeing as many as thirty there, an abnormally large number.

Gillett (*Diary*) wrote that an imago emerged on August 13, 1917, from a wild larva taken at Knockholt (div. 5). A more detailed and satisfactory account, however, is that of J. L. Atkinson (*in litt.*), who writes that he beat three larvae out of oak in Blean Woods, June 3, 1934, the imagines emerging September 7, 10, 12, 1934, and a further larva off oak at the same locality, June 5, 1938, from which an imago emerged September 16 that year.

8. Folkestone Warren, one, August 24, 1893 (Fenn, *Diary*). White-

hill Wood, Bridge, eight, September 20, 1932 (R. C. Crewdson, *teste* A. M. Morley). Wye, one, September 2, 1934; Brook, seven, October 10, 1934 (A. M. Morley). Denge Wood, c. 1938 (P. B. Wacher).

9. St. Peters, one, October 11, 1955 (W. D. Bowden).

15. Dungeness, one, at sugar, September 28, 1934, by A. G. Peyton; ♀, at sugar, September 11, 1938; Lydd-on-Sea, ♀, on street lamp, September 17, 1936; Romney Marsh, ♀, at m.v., September 10, 1956 (A. M. Morley).

VARIATION.—A rare ab. having the forewing rufous, with broad blackish suffused median band, and other markings absent or much obscured, is *melanarufa* C.-H., ♂ holotype, Plumstead Common, 1956, taken by W. A. Cox (C.-H., *Entomologist*, **94**: 281).

Buxton (*Ent. Rec.*, **23**: 314) records a "fine asymmetrical specimen", in which the "characteristic bands on the left forewing are run together, and this is particularly noticeable on the disc". The example was taken at Fairhill, Tonbridge, August 28, 1911.

The following two abs. are in R.C.K.:—*hartwiegii* Reuss, one, Herne Bay, September 1933, A. J. L. Bowes, two, Ham Street, September 1948, E. A. Cockayne; *fuscofasciata* Ckne., holotype ♂, Herne Bay, A. U. Battley.

FIRST RECORD, 1829: Darent Wood (Stephens, *Haust.*, **3**: 53).

#### **Achlya flavicornis** L. ssp. **galbanus** Tutt: Yellow-horned.

Native. Woods, heaths, commons; on birch.

1. Recorded from many localities in this div. Recent records are:—Petts Wood, fairly common, 1947, one, 1948 (E. Evans); larvae on birch, 1950 (A. M. Swain). Abbey Wood, 1947 (A. J. Showler). Elmstead Woods, one, 1946; Hayes Common, two, March 30, 1946 (D. F. Owen). Shooters Hill, one, 1948 (J. F. Burton). West Wickham, one, 1949, one, 1951 (C.-H.). Bexley, many, March 20, a few, March 21-24, 1950 (A. Heselden). Orpington, 1954 (L. W. Siggs). Bromley, one, 1959, two, 1960, four, 1961, fourteen, March 31-April 11, 1962 (D. R. M. Long).

OBS.—At meeting of Society of British Entomologists, April 6, 1852, it was stated that some dozens of the wings of this insect had been found at the foot of an oak in Plumstead Wood (*Zoologist*, 3502).

3. Denstroude, March 15, 1933, March 22, 1934, flying in sun, March 28, 1936 (A. J. L. Bowes). Barton Wood, fresh ♀, on apple branch in orchard, March 12, 1938, three ♂♂, at light, March 12-13, 1945 (C.-H.). Whitstable (P. F. Harris). Trenley Park, about twenty, March 25, 1956; Westbere, nine one night, seven another, c. 1955 (D. G. Marsh).

5. Westerham (R. C. Edwards).

6. Pinden (E. J. Hare).

6a. Darent Wood (see *First Record*) (noted here since, by many observers (C.-H.)); one, flying at mid-day, April 11, 1925 (F. T. Grant); larva, June 10, 1939 (Atwood, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1939-40: 41). Chattenden, larvae (Chaney (1884-87)).

7. Westwell, one, March 10, 1948 (Scott (1950)).

8. Folkestone (Ullyett (1880)). Reinden Wood, ♂ ♀, on bush at night, March 25, 1930; West Wood, one, March 29, 1930 (Morley (1931)). Reinden Wood, one, April 12, 1947 (A. M. Morley). Covert Wood, three, April 10, 1956 (W. D. Bowden).

10. Sevenoaks, one, 1887 (Henderson, *Young Nat.*, **8**: 140); 1949 (F. D. Greenwood). Brasted, larva, June 16, 1916 (Gillett, *Diary*) (R. M. Prideaux). Seal Chart, larva (Howarth, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1948-49: 71). Westerham, larva (Leston, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1951-52: 72). Sundridge, plentiful, 1962 (C. G. Bruce).

11. Wateringbury (*V.C.H.* (1908)). Tonbridge, one, 1950 (H. E. Hammond). Aylesford, c. 1954 (G. A. N. Davis). Hoads Wood, plentiful, also noted flying in sun; March 11, 21, 1954 (P. Cue); four April 2, 1955 (W. L. Rudland). Sevenoaks Weald, three, 1960 (E. A. Sadler).

12. Hothfield, larva, June 13, 1931, ♂ reared (A. M. Morley). Ham Street, two, March 12, larva, May 17, 1933, five, March 17, two, March 22, 1935 (A. M. Morley); one, February 19, one, March 16, 1937 (A. H. Lanfear); three, March 1939, a larva, June 17, 1939 (C.-H.).

13. Tunbridge Wells (E. D. Morgan); one, 1957 (L. R. Tesch, teste C. A. Stace).

14. Woodchurch (Scott (1936)). Sandhurst (G. V. Bull).

15. Dungeness, pupa, 1934, from which imago emerged, March 24, 1935 (A. J. L. Bowes).

VARIATION.—Kentish specimens are referable to ssp. *galbanus* Tutt, which is described as having the ground colour pale green, with the markings not so prominent, the stigmata pale and indistinct.

I have two ♂♂ ab. *confluens* Klem., taken Broad Oak, 1945, and West Wickham, 1951 (C.-H.).

FIRST RECORD, 1829: Darenth (Stephens, *Haust.*, **3**: 55).

#### **Polyloca ridens** F.: Frosted Green.

Native. Woods; on oak. Mainly Wealden; local. Unusually plentiful in 1955, 1956.

1. Shooter's Hill, three larvae, 1856 (Crewe, *Ent. week. Int.*, **1**: 123). West Wickham, one, taken May 1859 (Allchin, *Ent. week. Int.*, **7**: 203). Birch Wood, larvae, July 8, 1864, "I took a great number . . . beating them from the oaks in Birch Wood" (Newman, *Entomologist*, **3**: 147).

3. Trenley Park, from five cocoons excavated from under moss at foot of oak, March 4, 1921, two moths emerged March 23, and two, March 30, 1921 (H. G. Gomm, *Diary*).

6. Near Otford\* (Stephens, *Haust.*, **3**: 55).

6a. Chiddenden, 1902-03, one or two larvae each year (H. C. Huggins).

11. Hods Wood (Scott (1936)); several, May 10, 1954 (P. Cue); twenty-two at m.v., April 29, 1955, the main flight from 10 to 10.30 p.m.; one, May 14, 1956 (W. L. Rudland). Holt Wood, Aylesford, in m.v. trap, one, 1953, one, 1954 (G. A. N. Davis). Sevenoaks Weald, one, at m.v., 1960 (E. A. Sadler).

12. Ham Street, ♂, May 11, ♂, May 20, 1834; eighteen ♂♂ taken at light between April 22 and May 4, 1935, by A. G. Riddell, A. G. Peyton, E. Scott, and A. M. Morley; a larva on scrub oak bush, 1947 (A. M. Morley); May 15-16, 1936, May 8, 1938 (Bull, *Diary*); several at light, 1938, a few, 1939, four nearly full-grown larvae beaten out, June 13, 1947, two worn ♂♂ at m.v. May 12, 1951, twenty ♂♂, two ♀♀, at m.v., mostly in fresh condition, May 5, 1956; all in Long Rope and Burnt Oak (C.-H.); several, 1954 (P. B. Wacher); about fifty at m.v., one night in 1955 (G. Law, teste P. B. Wacher); plentiful at m.v., May

3, 1956 (E. J. Hare); 1959 (de Worms, *Entomologist*, **93**: 158); five, May 6, 1960 (R. G. Chatelain).

13. Tunbridge Wells, scarce (A. D. Reed, *fide* E. D. Morgan). Goudhurst, not uncommon at light, 1955-61 (W. V. D. Bolt).

VARIATION.—Two ♂♂, taken Ham Street, May 7, 1956, are referable to ab. *erythrocephala* Esp. (C.-H.).

FIRST RECORD, 1829: Stephens, *loc. cit.*

#### LYMANTRIIDAE.

**Orgyia recens** Hüb. (**gonostigma** F.): Scarce Vapourer.

Native; probably long extinct. Woods; on oak, hazel.

1. Near Lewisham (see *First Record*). "It occurs in several places near the metropolis, as at Lewisham, Erith. . . ." (Stephens, *Haust.*, **2**: 62). Bexley, "while searching the young oaks in woods, at Bexley, I came across a batch of ova of *Orgyia gonostigma*, July 10, 1898, the larvae from which are doing well at the present time" (Newman, *Ent. Rec.*, **10**: 277); the same recorder (*Ent. Rec.*, **11**: 277) states that on September 2, 1899, he found ten young larvae in the same locality as of the previous year. [West Wickham, ♂, seen flying in the sun, May 25, 1952, but suspected of being an escape, as at that time the species was being reared by several collectors in the neighbourhood (C.-H.)]

6. Greenhithe\* (Stephens, *Haust.*, **2**: 62) (Curtis, *Br. Ent.*, 378).

[11. Tonbridge, two broods, bred 1896 (Bacot, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1897: 2); wants confirmation, particularly in regard to locality (C.-H.)]

FIRST RECORD, 1720: The larva "was found feeding on the *Hastle* . . . near Lewisham in Kent" (Albin, *Nat. Hist. English Insects*, facing pl. 90).

**O. antiqua** L.: Vapourer.

Native. Gardens, parks, waysides, hop plantations, woods, etc.; on oak, hawthorn, hop, acacia, poplar, buddleia, broom, sycamore, maple, rose, willow, elm, laburnum, cherry, apple, holm oak, polyanthus. Recorded from all divisions (once only from 15). Fairly numerous and occasionally locally abundant among deciduous trees and shrubs in urban districts, generally much less plentiful in rural areas, and probably absent from purely coniferous woodland. The statement: "Common everywhere" (in *V.C.H.* (1908)), is unsupported by the records.

The imago usually appears in one generation from July-September. Tunaley (*Ent. Rec.*, **8**: 138) records that in 1896, at Chaddenden, he saw two flying on April 4; Bull (*Ent. Rec.*, **64**: 57) noted a ♀ at Broadstairs in 1950, on October 17; and Fenn (*Diary*) writes that at Lee, in 1861, several were seen on the wing on October 20, and in 1885, one as late as October 22.

The ♂ has occasionally occurred at light, and been found in m.v. traps. One, at light, Ham Street, August 8, 1952 (C.-H.); one there at light, 1956 (de Worms, *Entomologist*, **90**: 181); one, in m.v. trap, Blackheath, 1959 (A. A. Allen); and on three occasions found in an m.v. trap in the morning at Folkestone (A. M. Morley). Despite these records, however, there does not appear to be any direct evidence of a natural crepuscular or nocturnal flight, and one suspects that in each instance the moth was either disturbed, or in the case of being found in a trap, possibly entered it during daylight.

The species has sometimes been observed in the utmost profusion, particularly in its early stages. Thus, Douglas (*Ent. mon. Mag.*, **17**: 114) records that though always common at Lewisham, in 1880 it appeared there in prodigious numbers; and A. M. Morley (*in litt.*) writes that in the Sandgate Road, Folkestone, on August 27, 1954, he found that a laburnum tree outside a shop had been completely defoliated, and that the nearest tree, a cherry about fifteen yards away, was as bad. Since about 1950, B. K. West has found larvae, pupae, and ova in very large numbers on rose and various cultivated shrubs in a school out-house at Crayford, and in 1954, and the year or two immediately preceding, they were in such masses there, that the ceiling became festooned with their webs.

Fenn (*Lepidoptera Data MS.*) records that in 1875, at Erith, larvae were found feeding on an evergreen—Holm oak; and A. M. Morley observes that at Folkestone in August 1954, one was taken on *Polyanthus*. A batch of ova that I took at West Wickham off *Acacia*, in 1955, produced no larvae, but numbers of a Proctupoideid which was determined by G. E. J. Nixon (Br. Mus. (S. Kensington)) as *Teleromus dalmanni* Ratz. (C.-H.).

Bacot (*Ent. Rec.*, **10**: 30) says that in Kent, the larva of *antiqua* is known as the “Hop-cat”; and Anderson (*Young Nat.*, **7**: 253-4) records that this is particularly so throughout the district between Footscray and Sevenoaks. The term “Hop-cat”, however, is also locally applied to at least one other species of larva in Kent, notably that of *Dasychira pudibunda* L. (q.v.).

15. Dymchurch, one, July 27, 1948 (P. le Masurier), is the only known occurrence in this division, where it is perhaps casual.

**VARIATION.**—A gynandromorph, bred, East Malling, c. 1930 (A. M. Massee). In R.C.K. is a gynandromorph, left side ♂, N. Kent, June 1928. L. W. Newman.

**FIRST RECORD**, 1828: “A very abundant insect throughout the metropolitan district” (Stephens, *Haust.*, **2**: 61). The first *certain* Kentish record, however, dates from 1861: Lee (Fenn, *Diary*).

#### ***Dasychira fascelina* L.: Dark Tussock.**

Native. Shingle beach, woodland; on broom, bramble, sallow, black-thorn, dock, hawthorn. Locally not uncommon in 15, where it is mainly on broom; extinct elsewhere.

In 1828, Stephens (*Haust.*, **2**: 59), recorded it as: “Rather an uncommon species, occurring most frequently in the woody districts of Kent and Bedfordshire”.

1. Eltham (see *First Record*). Farnborough, two larvae, 1903 (H. Alderson, in *Wool. Surv.* (1909)).
3. Canterbury\* (Morris, *Br. Moths*, **1**: 74).
6. Longfield, 1867 (Jennings, *Entomologist*, **4** (54)ii).
13. Tonbridge\*, rare (A. D. Reed, *fide* E. D. Morgan).
15. “Romney Marsh, bred 7. 1909, R. A. N.”, five specimens so labelled in E. Goodwin coll. (C.-H.). Dungeness.—A larva taken by A. M. Morley, on sallow by the pits, June 2, 1928; six larvae, July 8, 1929, W. O. W. Edwards; two larvae on blackthorn, May 30, 1931; six larvae, June 4, 11, 1932; thirteen larvae, May 6, four, May 26, 1933; one larva, June 12, 1941; three larvae, June 16, 1953, two of which were stung; “In 1954, I saw two ♂♂ in D. More’s m.v. trap, the morning of

August 22, a surprisingly late date" (A. M. Morley *in litt.*); thirty larvae found in late April (1952) (C. A. W. Duffield, *fide* A. M. Morley); many larvae, June 13, 1929 (Kettlewell, *Ent. Rec.*, 42: 76); an imago at rest, July 5, 1931, several larvae, May 31, 1931 (de Worms, *Entomologist*, 65: 58, 60); two larvae, May 13, 1937 (A. H. Lanfear MS.); several larvae, May 29, 1939 (S. F. P. Blyth); seventeen ♂♂ at m.v., by Pilot Inn, August 3, 1951; several ♂♂, two ♀♀ there at m.v., July 25, 1952; eighteen larvae on broom by the level crossing, June 1, 1956 (C.-H.); a larva found feeding on dock, June 18, 1953 (W. L. Rudland); a larva on bramble, and four others on broom, June 7-11, 1955, near the lighthouse (G. A. N. Davis); three larvae, September 22, 1955 (E. C. Pelham-Clinton); July 1957, at the bird observatory (E. Philp); 1959 (A. L. Goodson).

**VARIATION.**—According to Strand (in Seitz, *Macrolepidoptera of World: Palaearctic Bombyces and Sphinges*, 112), *fascelina* averages 40 mm. in ♂, and 50 mm. in ♀. The Dungeness specimens may therefore be said to be exceptionally large, and in my series of some twenty captured examples, most have a wing span of approximately 47 mm. and 60 mm. in ♂ and ♀ respectively, and are, moreover, appreciably larger than any specimens from various other British localities in the series at the Br. Mus. (S. Kensington) with which I have compared them; furthermore, in addition to the above characteristic, all Dungeness *fascelina* that I have seen, show the cross lines fairly distinctly, and there is little or no marking beyond the second line. Compared with the extensive assemblage of extra-British specimens at S. Kensington, the Dungeness form appears very similar to that exhibited by a long series from Rennes, France, in Oberthür coll. (C.-H.).

**FIRST RECORD, 1720:** The larvae taken "on the White Thorn near Peckham and Eltham in Kent" (Albin, *Nat. Hist. English Insects*, facing plt. 26).

#### D. **pudibunda** L.: Pale Tussock.

Native. Woods, copses, avenues, hop gardens, etc.; on oak, birch, hop, willow, lime, Spanish chestnut, elm, alder, hazel, aspen, sallow, beech. Recorded from all divisions, except 15. Fairly plentiful, particularly in wooded areas, but apparently scarce or casual in 2, 4, 9. "Occurs generally, but is not very common" (V.C.H. (1908)).

The larva, known generally in Kent as the "Hop-Dog", has been recorded as being abundant in hop gardens (Chaney (1884-87)), but is probably less so nowadays owing to insecticides. In the Tunbridge Wells area, Morgan (in Knipe (1916)), stated that the larva which "was formerly abundant has now become much less common, probably owing to the increase in the practice of hop-washing"; and the same recorder, writing some thirty years later (in Given (1946)), said that the larvae "so abundant in hop-gardens in old days, is now rarely seen on that plant, though still frequent on its other foodplants". Evidently the larva continues to be fairly numerous on hops however, since we have C. A. Stace's statement (*in litt.*, 1959), that it is still frequent at Tunbridge Wells, "especially so on hop".

Anderson (*Young Nat.*, 7: 253-4) records that throughout the district between Footscray and Sevenoaks, the larvae of *pudibunda* are known as "hop-dogs", and those of *O. antiqua* (*q.v.*) as "hop-eats", and that both are considered friends by the farmers who imagine they devour

the "fly". About Gravesend, however, according to Clifford (*Young Nat.*, 7: 236), it is apparently the larva of *pudibunda* that bears the name of "hop-cat".

2. Luddenham (H. C. Huggins). Abbey Wood, 1952 (A. J. Showler).

4. Ickham (D. G. Marsh).

9. Margate, June 14, 1951 (W. D. Bowden).

**VARIATION.**—A form having a dark grey forewing, unicolorous or with only traces of transverse lines, ab. *concolor* Stgr., has occurred during the past fifteen years, and seems to be on the increase. The following all appear referable to this aberration:—1948: Sevenoaks (Howarth, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1948-49: 38). 1952: Westwell, ♂, May 28, taken by E. Scott (C.-H. coll.). 1955: Otford, ♂, May 26 (W. B. L. Manley). 1956: Orlestone Woods, one, June 1, 1956 (R. F. Bretherton). 1959: Shorne, a "dark aberration" (Trundell, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1959: 18).

In R.C.K. is ab. *juglundis* Hb., ♂, Kent, bred 1920.

**FIRST RECORD**, 1828: "Hop-gardens, Kent, common; the caterpillars called 'hop-dogs'." (Ingpen, in Stephens, *Haust.*, 2: 59).

#### **Euproctis chrysorrhoea** L. (***phaeorrhoea*** Don.): Brown-tail.

Resident.<sup>1</sup> Hedgerows, bushy places, orchards; on sloe, hawthorn, bramble, *Hippophae rhamnoides*, rose, sallow, apple, pear, medlar, *Euonymus japonicus*. Recorded from all divisions (except 5, 10), but occurring mainly in coastal areas of 2 (particularly Sheppey), 4, 15. Few records for 1, 6a. 11, 13. Local.

In 1952, the imago was noted at Dymchurch as early as June 26 (S. Wakely and T. G. Edwards), and in 1955, at Folkestone as late as August 24 (A. M. Morley).

The larva has perhaps most often been found on sloe, hawthorn, bramble, and *H. rhamnoides*. At Lydd, September 19, 1953, R. F. Bretherton found a nest on medlar; A. M. Morley has taken it on sallow at Dungeness, and on June 6, 1942, he found two larvae on *E. japonicus* in the town of Folkestone. At Wye during the outbreak in 1901, both pear and apple were defoliated by the larva of this species (Theobald, *J. S.-E. Agr. College (Wye)*, 1902 (11) 51).

1. West Wickham, 1858 (Perkins, *Ent. week. Int.*, 4: 141). Bromley (Colthrup, *Entomologist*, 35: 321). Brockley, a few, 1887-90 (Turner, *Ent. Rec.*, 1: 349). St. Mary Cray, one, July 14, 1948 (A. M. & F. A. Swain coll.). Lee, one, July 31, 1954 (C. G. Bruce).

6a. Chattenden (Chaney (1884-87)); ♂, July 27, 1951 (B. K. West).

11. Yalding (*V.C.H. (1908)*).

13. Tunbridge Wells\* (A. D. Reed, in Knipe (1916)).

The species is subject to vast changes in numerical strength; e.g., it was noted as being very plentiful in 1782, 1858-60, 1869, 1871, 1874-75, 1877, 1898, 1900-01, 1919, 1929, 1931-38, 1941, 1949, 1955; but as exceedingly scarce in 1855, 1880-92. In 1782, it swarmed to such a degree, that special measures were taken for fear of its becoming a serious pest, and the larvae were collected by the bushel and burned; in contrast, however, for a decade or more towards the end of the nineteenth century, *chrysorrhoea* was so scarce, that recommendations were actually made for its protection; yet again, its numbers reached dangerous proportions, and in 1901, the Board of Agriculture issued

instructions for its control.

The following notes relating to its fluctuations during the past hundred years or so, are of interest:—

1855-1901.—Harding (*Ent. week. Int.*, **8**: 123) writing from Deal on July 16, 1860, observed that in 1855 it was rare there, but that "now they swarm on every whitethorn bush"; and Briggs (*Entomologist*, **6**: 141) mentioned that in 1869, it was exceedingly common in Folkestone Warren. On May 17, 1871, larvae were infesting the hedges in the neighbourhood of Sheerness, and seemed to attack almost every plant, though giving preference to sloe and whitethorn (Mathew, *Ent. mon. Mag.*, **8**: 18); but that previous to 1868, "it was quite a rarity in this district" (Walker, *Ent. mon. Mag.*, **8**: 184). Adkin (*Entomologist*, **30**: 232) said that at Deal, in 1875, the pupae were so abundant, he could have "literally collected the proverbial wagon load", but that some six years later he searched in vain for it there. The same recorder (*Moths of Eastbourne*, **1**: 22) however, stated that it was still abundant there in 1877, but was unobtainable in 1879; and added (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1907-08: 13) that though fairly common in the latter year at Higham (div. 2), near Gravesend, he was unable to find it at that locality for several years after.

The species underwent a term of comparative scarcity from about 1880 to 1892, and there are but few records for this period. Coverdale (*Entomologist*, **16**: 220) reported that he found the larvae not uncommonly at Dover (in 1883); Hill (*Ent. Rec.*, **10**: 154) recorded a single ♂ at light, at Broadstairs in 1885; and Fenn (*Diary*) observed a ♀, August 23, 1888, and a larva on hawthorn, July 15, 1889, both at Deal. A curious record is of several at Brockley (div. 1), between 1887-90 (Turner, *Ent. Rec.*, **1**: 349), which is close to the border of the metropolis.

From 1894, *chrysorrhoea* was evidently more numerous, and in that year, Mathew (*Entomologist*, **29**: 192) recorded that he found a few larvae at Sittingbourne. Walker (*Ent. mon. Mag.*, **33**: 185) stated that the larvae were rather plentiful in 1897 about 1 mile from Sheerness, and that it was the first time he had seen the species alive in any of its stages since 1872. In 1898, it was in profusion at Deal (Dadd, *Ent. Rec.*, **11**: 223); in 1900, in quantities at Hythe, as well as in "countless thousands" at the former locality (Reid, *Ent. Rec.*, **13**: 131); and in 1901, in great numbers in orchards in East Kent (Theobald, *Entomologist*, **52**: 171).

1902-1962.—In 1902, though still plentiful at Deal (Carr, *Entomologist*, **35**: 246), it had become much less common in the fruit plantations, and in the opinion of Theobald (*J. S.-E. Agr. College (Wye)*, 1907 (16) 53), the rapidity with which it decreased was partly due to a Tachinid parasite, *Thelymorphia vertigosa* Fl., which were bred out in great numbers.

The species seems to have been scarce in 1915, for in that year Theobald states that he could only find two larval tents, at Littlestone; but that in 1919 the nests were in countless numbers, both there and at Deal (Theobald, *Entomologist*, **52**: 168). Since 1919, it does not at any time appear to have been scarce, but in certain years was noted as particularly abundant.

A. M. Morley (*in litt.*) writes that he has never seen it in such numbers as on Sheppey, and says that in 1941, "the nests were at

close intervals along the side of the road on blackthorn, hawthorn, and wild rose, from the nearside of Queensferry Bridge to the outskirts of Queenborough". And he adds that "on May 20, a rough calculation suggests that the number of larvae must have exceeded half a million". Owen (*Entomologist*, **82**:233) noted larvae in vast swarms in Sheppey in 1949, and that they were most in evidence in the south-east corner of the island. In May 1950, I noticed that the larvae were very abundant on hawthorn hedges in Sheppey, between Leysdown and Harty Ferry, but were obviously being considerably reduced, owing to the numbers of Cuckoos that were feeding upon them (C.-H.).

VARIATION.—Vallins (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1948-49: 47) exhibited a ♂ with orange tail, bred from Dungeness larva taken 1948; and Morley (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 38) exhibited a ♂ taken at Folkestone, 1930, having both the "body and antennae orange".

A ♂, in J. W. C. Hunt coll., taken St. Peters (div. 9), July 18, 1937, is the holotype of ab. *fumosa* C.-H., a form in which the white is tinged throughout with smoke-grey.

Specimens bearing a few isolated black dots, ab. *punctella* Strand, occur fairly frequently; but ab. *punctigera* Teich, in which the spots are more numerous and form rows, only occurs occasionally. I have 11 ♂♂, 3 ♀♀ of the former, but only 2 ♂♂ of the latter; all bred with some thirty normal specimens in 1946, from wild Dungeness larvae (C.-H.). A. J. L. Bowes (*Diary*) records that he bred several black spotted ♂♂ from Herne Bay pupae, and that at Sandwich, he took a few ♂♂, August 9, 16, 1939, all of which had black spots.

In R.C.K., are ab. *fumosa* C.-H., ♀, Folkestone, June 1900, S. G. Hills; ab. *xanthorrhoea* Oberth., two ♂♂, bred July 25, 26, 1946, Goodson.

FIRST RECORD, 1782: "The attention of the public has of late been strongly excited by the unusual appearance of infinite numbers of large white webs, containing caterpillars, conspicuous on almost every hedge, tree, and shrub, in the vicinity of the metropolis" (Curtis, *A Short History of the Brown-Tail Moth*, 3). The first definitely Kentish record, however, dates from 1828: Gravesend (Stephens, *Haust.*, **2**: 66).

<sup>1</sup>Also classed as a migrant or suspected migrant by Williams, *et al.* (1942).

#### **E. similis** Fuessl.: Gold-tail.

Resident.<sup>1</sup> Hedgerows, gardens, bushy places, etc.; on hawthorn, blackthorn, rose, elm, oak, apple, pear, Spanish chestnut, sallow, willow, *Viburnum latana*, *Hippophae rhamnoides*. Frequent, and found in all divisions. "Generally abundant" (V.C.H. (1908)).

Barrett (*Ent. week. Int.*, **7**: 75) noted an imago in "fine condition", at West Wickham, October 4, 1859; and D. F. Owen (per Rothamsted), recorded that he took a perfectly fresh specimen at Eynsford, September 27, 1947; seemingly both instances of a partial second generation.

The species is subject to marked numerical fluctuation; but there is no confirmed record that its numbers ever reach such vast proportions as its congener *chrysorrhoea*. Fenn (*Ent. week. Int.*, **10**: 197), recorded that in Lee neighbourhood, though "usually a pest", it was in 1861, "practically absent"; in the same area (in 1894), it was recorded as having become "very greatly reduced in numbers" (Fenn, *Ent. Rec.*, **6**:

230); and a few years later was described as "rare" there (Green, *Trans. W. Kent nat. Hist. Soc.*, 1905-06: 15). Dadd (*Ent Rec.*, 11: 223), found the larvae of both *similis* and *chrysorrhoea* in the "greatest profusion", at Deal, June 24-25, 1899, feeding on sloe and *H. rhamnoides*; and Theobald (*J.S.—E. Agr. College* (Wye), 1910 (19)93), reported that the larvae were a pest on fruit in Kent, in 1909.

The larva occurs perhaps most frequently on hawthorn and sloe, though is often found on other trees. Kidner (*Diary*) wrote that at Sidcup, October 10, 1909, he found two groups of larvae with about eight in each group, on the undersides of sallow leaves; and that he also noted the larva at this locality in June 1914 on willow. Theobald (*J.S.—E. Agr. College* (Wye), 1899 (8)46), reported that in 1898, hosts of these larvae were seen towards the end of June in Kent, feeding ravenously on the foliage of Spanish chestnut; and the same recorder (*op. cit.*, 1910 (19) 94), states that at Dene Park, Tonbridge, apple trees were infested with the larvae, which were actually feeding on the fruit. A larva collected from *V. lantana*, at Eynsford, produced a ♀, 1948 (J. F. Burton); and Gomm (*Diary*), observed that in a lane at Minster (div. 9), he found six cocoons, July 19, 1915, spun up in chinks of bark of elm, from which imagines emerged July 28-August 3, 1915.

**VARIATION.**—The nymotype is the most numerous form in Kent, but ab. *auriflua* Hb., is apparently fairly frequent (C.-H.).

There is occasionally considerable variation in size; thus, de Worms (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1929-30: 33) records a ♂, taken near Tonbridge, August 26, 1925, with al. expanse 23 mm.; and I have a ♀ that I took at Hoads Wood, August 11, 1955, measuring 49 mm. (C.-H.).

A striking ♂, "with considerable dark scaling on forewings", taken Orlestone Woods, August 24, 1960 (West, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1960: 55), is referable to ab. *nigrostriata* Cockayne.

**FIRST RECORD, 1858:** Deal (Harding, *Ent. week. Int.*, 4: 141).

<sup>1</sup>Also classed as a migrant or suspected migrant by Williams *et al.* (1942).

### **Arctornis l-nigrum** Mull. (**v-nigrum** F.): Black V.

Probable immigrant.

Three examples only, all before 1830.

The date of the earliest recorded occurrence in the county is not known, but must have been before 1826, for in the preceding year, Curtis (*Br. Ent.*, 68) stated that the larva fed on lime and "the moth has been found upon that tree the middle of August, in the neighbourhood of Darent, Kent.

In 1828, Stephens (*Haust.*, 2: 64), referring to the few examples known to him, added: "Another specimen, I believe, was taken at Bromley, in Kent, in August 1827, and is in a collection at Birmingham". Presumably this is the same specimen as that mentioned in Curtis's *M.S. Register* on the authority of Samouelle (*per* Walker, *Ent. mon. Mag.*, 40: 193) as from "Bromley, Kent".

The only other Kentish *l-nigrum* known, is that recorded by Morris (*Br. Moths*, 1: 78), who wrote: "A locality for this species is Sole-Street House, near Faversham, Kent, where one was taken by my school-fellow, Henry Hilton"; and added: "It was for some time in my collection, and is now in the cabinet of Mr. Abraham Edmunds of Worcester, who had it from me"<sup>1</sup>.

close intervals along the side of the road on blackthorn, hawthorn, and wild rose, from the near side of Queensferry Bridge to the outskirts of Queenborough". And he adds that "on May 20, a rough calculation suggests that the number of larvae must have exceeded half a million". Owen (*Entomologist*, **82**: 233) noted larvae in vast swarms in Sheppey in 1949, and that they were most in evidence in the south-east corner of the island. In May 1950, I noticed that the larvae were very abundant on hawthorn hedges in Sheppey, between Leysdown and Harty Ferry, but were obviously being considerably reduced, owing to the numbers of Cuckoos that were feeding upon them (C.-H.).

VARIATION.—Vallins (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1948-49: 47) exhibited a ♂ with orange tail, bred from Dungeness larva taken 1948; and Morley (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 38) exhibited a ♂ taken Folkestone, 1930, having both the "body and antennae orange".

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### E. *similis* Fuessl.: Gold-tail.

Resident.<sup>1</sup> Hedgerows, gardens, bushy places, etc.; on hawthorn, blackthorn, rose, elm, oak, apple, pear, Spanish chestnut, sallow, willow, *Viburnum lantana*, *Hippophae rhamnoides*. Frequent, and found in all divisions. "Generally abundant" (*V.C.H.* (1908)).

Barrett (*Ent. week. Int.*, **7**: 75) noted an imago in "fine condition", at West Wickham, October 4, 1859; and D. F. Owen (per Rothamsted) recorded that he took a perfectly fresh specimen at Eynsford, September 27, 1947; seemingly both instances of a partial second generation.

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Barrett (*Ent. week. Int.*, **7**: 75) noted an imago in "fine condition", at West Wickham, October 4, 1859; and D. F. Owen (per Rothamsted), recorded that he took a perfectly fresh specimen at Eynsford, September 27, 1947; seemingly both instances of a partial second generation.

The species is subject to marked numerical fluctuation; but there is no confirmed record that its numbers ever reach such vast proportions as its congener *chrysorrhoea*. Fenn (*Ent. week. Int.*, **10**: 197), recorded that in the Lee neighbourhood, though "usually a pest", it was in 1861, "practically absent"; in the same area (in 1894), it was recorded as having become "very greatly reduced in numbers" (Fenn, *Ent. Rec.*, **6**: 230); and a few years later was described as "rare" there (Green, *Trans. W. Kent nat. Hist. Soc.*, 1905-06: 15). Dadd (*Ent. Rec.*, **11**: 223), found the larvae of both *similis* and *chrysorrhoea* in the "greatest profusion", at Deal, June 24-25, 1899, feeding on sloe and *H. rhamnoides*; and Theobald (*J.S.-E. Agr. College (Wye)*, 1910 (19)93), reported that the larvae were a pest on fruit in Kent, in 1909.

The larva occurs perhaps most frequently on hawthorn and sloe, though is often found on other trees. Kidner (*Diary*) wrote that at Sidcup, October 10, 1909, he found two groups of larvae with about eight in each group, on the undersides of sallow leaves; and that he also noted the larva at this locality in June 1914 on willow. Theobald (*J.S.-E. Agr. College (Wye)*, 1899 (8)46), reported that in 1898, hosts of these larvae were seen towards the end of June in Kent, feeding ravenously on the foliage of Spanish chestnut; and the same recorder (*op. cit.*, 1910 (19)94), states that at Dene Park, Tonbridge, apple trees were infested with the larvae, which were actually feeding on the fruit. A larva collected from *V. lantana*, at Eynsford, produced a ♀, 1948 (J. F. Burton); and Gomm (*Diary*), observed that in a lane at Minster (div. 9), he found six cocoons, July 19, 1915, spun up in chinks of bark of elm, from which imagines emerged July 28-August 3, 1915.

FIRST RECORD, 1825: Darenth neighbourhood (Curtis, *Br. Ent.*, 68).

<sup>1</sup>Morris (*loc. cit.*) states that Hilton took the specimen in his school holidays; the date of capture must therefore have been about 1825, for according to *Crockford's Clerical Directory* for 1858, both men graduated at university in 1833.

**Leucoma salicis** L.: White Satin.

Resident, perhaps reinforced by immigration<sup>1</sup>. Marshes, waysides, etc.; on *Populus calix*. Recorded from all divisions (except 5, 6a). Frequent in low-lying coastal areas of 2, 4, 15; doubtful if permanently resident elsewhere; few records for 6, 7, 8, 10, 13, 14.

The species is sometimes abundant very locally, particularly in its early stages. Mathew (*Ent. mon. Mag.*, 8: 18) records that at Sheerness Dockyard in 1870, the poplar trees were almost stripped of foliage, and thousands of pupae were present in clusters of a dozen or more; elsewhere in Div. 2, H. C. Huggins (*in litt.*), writes that the larvae swarmed on one or two willows by Gravesend Hospital, c.1905. Fenn (*Diary*), noted larvae in profusion at Deal (div. 4), July 5, 1891; and Heitland (*Entomologist*, 31: 221), recorded that it was plentiful in all stages at Appledore (div. 15), in July 1899.

During the present century, *salicis* has probably been most regularly observed in div. 15, at least since the 1920's. There is a record of A. M. Swain that he took a number at Littlestone in 1901, and at this same locality, many larvae were noted by R. F. Bretherton on July 2, 1954. A. M. Morley (*in litt.*), writes that at Dungeness, there is a permanent colony, which was first noticed by him in 1929; since when, larvae and imagines have been seen by many observers, both at Dungeness and elsewhere on Romney Marsh. Dungeness, many at light, July 19, 1945 (A. M. Morley); several, July 1959 (C. R. Haxby).

In most, if not all other divisions, except 2, 4 and 15, the species is apparently seldom numerous, and only intermittent in its occurrence. A. J. L. Bowes states that at Herne Bay (div. 3), a flourishing colony was found on poplars in Station Road in 1930, but were not in evidence the next year, and no more was seen of the species until a ♂ came to light, July 31, 1935. W. L. Rudland records that the moth only occurred twice at m.v., at Willesborough (div. 12), during the period that it was operated from 1954-56, i.e., July 1, 20, 1956; and but once at m.v. at Wye (div. 12), from 1953-56, i.e., July 2, 1953. In Folkestone, A. M. Morley only noted nine at m.v. from 1951-61, with maximum of two in 1955 and 1958, and none in 1951, 1957, 1959 and 1961. In the Lewisham area 1945-47, D. F. Owen gave it as "very local and usually rare", and that larvae found in 1946 at Abbey Wood Marshes (div. 2), and Lee (div. 1), were all ichneumoned.

There are numerous records of the larva on poplar; probably mostly on black poplar, though few specify this. It has also been noted on Lombardy poplar (Chaney (1884-87)); on "weeping willow" (Jones, *Ent. week. Int.*, 10: 188); one, on white poplar, Postling Wents, near Hythe (div. 12), July 11, 1953 (A. M. Morley), and on sallow at Dungeness (C.-H.).

6. Eynsford, pupa (Adkin, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1904-05: 32). Pinden (E. J. Hare).
7. Burham Down (*Trans. Kent Fld. Cl.* 1961: 1:129).
8. Folkestone Warren (Ullyett (1880)). Dover (E. & Y. (1949)).

10. Brasted, occasionally (R. M. Prideaux). Sevenoaks, larva on poplar trunk, 1919 (Gillett, *Diary*).

13. Tunbridge Wells, two, 1959 (L. N. Tesch).

14. Tenterden (Stainton, *Man.*).

VARIATION.—In R.C.K. is a ♀ ab *radiosa*, Gordon Smith, N. Kent, August 1922, L. W. Newman.

FIRST RECORD, 1858: "Excessively abundant on a row of poplars, on Chatham Lines" (Crozier, *Nat. Hist. Rev. (Proc. Dublin Univ. zool. Bot. Ass.)*, 5: 128).

<sup>1</sup>Cockayne (*Entomologist*, 65: 284) suggests the possibility of reinforcement by occasional immigration. The species is also classed as a migrant or suspected migrant by Williams *et al.* (1942).

### **Lymantria dispar** L.: Gipsy.

Probable immigrant. Hedgerows, woods, etc.; on hawthorn.

At least fifteen *dispar* have been recorded from Kent, including five that were bred from feral larvae.

The earliest known occurrence is of a worn ♀, taken by W. C. Chaney in Wigmore Wood (div. 7), c.1856 (Chaney (1884-87)). Since then it has been noted as follows:—1860: Near Ashford, taken by A. W. Mera (Mera, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1901: 18). 1870: Chattenden Roughs, ♂, taken by J. J. Walker, July 25 (Chaney, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1886: 50). 1885: Bexley, one taken in 1885, exhibited by Allbuary at Haggerston Entomological Soc., November 12, 1885 (*Ent. mon. Mag.*, 22: 166). N.d.: Folkestone (Ullyett (1880)). 1888: Deal, two ♂♂, two ♀♀, bred from feral larvae (Tulloch, *Entomologist*, 60: 164). 1899: Folkestone Warren, a ♂, reared August 20, 1899, from a larva casually collected in July from a hawthorn hedge (Hills, *Ent. Rec.*, 11: 345) (Adkin, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1916-17: 4, 45), is in Br. Mus. (S. Kensington) (C.-H.); Sandgate, a ♂, at light, August 3 (Green, *Ent. Rec.*, 11: 306), is in my coll. (C.-H.). 1950: Cliftonville, Margate, ♂, taken by W. D. Bowden, July 10 (Bowden, *Entomologist*, 84: 60). 1951<sup>1</sup>: Dover, ♂, taken by G. H. Youden, at m.v., July 31 (Youden, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1951-52: 47; *idem, Entomologist*, 84: 261). 1961: Folkestone Town, ♂, at m.v., August 29, taken by A. M. Morley (A. M. Morley).

[N.d.: Adam's Well near Langton, Tunbridge Wells, one, A. L. H. Townsend; Tonbridge, one, A. D. Reed (Knipe (1916); Given (1946)). Note: R. H. Rattrey (*Entomologist*, 53: 19), records that he had the species in captivity at Tonbridge.]

FIRST NOTICE, c.1856: Wigmore Wood (Chaney, *Rochester Nat.*, 1885: 1 (7)119).

<sup>1</sup>It is noteworthy that in 1951 the species was abnormally abundant in France (cf. Dannreuther, *Entomologist*, 85: 156; Muspratt, *op. cit.*, 85: 263).

### **L. monacha** L.: Black Arches.

Native. Woods, copses; on oak. Mainly Wealden; probably casual in 9.

1. West Wickham, larva, 1859 (Latchford, *Ent. week. Int.*, 6: 123). West Wickham and Hayes (Birchenough, *fide de Worms, Lond. Nat.*, 1953: 126). Petts Wood, rare (S. F. P. Blyth); one ♂, 1947 (E. Evans); 1949, frequent, larvae on oak (A. M. Swain). Dartford, two ♂♂, August 24, 1946 (B. K. West).

3. Near Canterbury\*, one bred from a larva taken off sugar, 1871 (Parry, *Entomologist*, 5: 394). Blean Woods, a larva, June 3, 1866 (Fenn, *Diary*). Near Herne Bay, ♀, 1926 (D. G. Marsh coll.). Chestfield, near the golf-course, "one bred and another on oak trunk" (P. F. Harris *in litt.*).
4. Ickham, one, August 23, one August 24, 1954 (D. G. Marsh coll.).
6. Eynsford, one on larch trunk, August 19, 1933 (Blair, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1933-34: 32).
- 6a. Darent Wood.—(Stephens, *Haust.*, 2: 57); "Mr. Desvignes has taken it at Darent" (Curtis, *Br. Ent.*, 767); one, 1861, seventeen larvae by various collectors, 1862 (Fenn, *Diary*); one larva, June 14, 1868, parasitized by two worms (Standish, *Entomologist*, 4: 98-99) (from the description they appear to have been nematode worms (C.-H.)). Cobham Woods, one, by J. J. Walker, July 28, 1870 (Chaney (1884-87)); one, 1882, one, 1889 (Pye, *Rochester Nat.*, 1896: 2 (51), 352); August 4, 1919 (F. T. Grant).
7. Westwell, four at light, August 18, 1934 (A. M. Morley); August 13, 1938 (A. J. L. Bowes); "very common lately" (E. Scott, *verbatim*, 19.xii.1954).
8. Folkestone\* (Ullyett (1880)). Folkestone [Reinden Wood], ♂, ♀, taken by J. W. Walton, c. 1898 (A. M. Morley). Moderately common, Waldershare and Woolwich Wood; Barfreston (E. & Y. (1949)). Wye, September 2, 1934 (A. J. L. Bowes). Near Canterbury, larva (H. C. Huggins). Gorsley Wood, larvae, c. 1946 (R. Gorner). Dover, one, 1945 (B. O. C. Gardiner). Reinden Wood, ♂, at light, 1948 (A. M. Morley).
9. Minster, about four dozen ova found on oak trunk, October 9, 1914, from which imagines bred (H. G. Gomm, *Diary*).
10. Brasted, a few larvae (R. M. Prideaux). Westerham (R. C. Edwards). Seal Chart, larva, June 20, 1948 (Howarth, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1948-49: 71). Sevenoaks, at light, 1948-49 (F. D. Greenwood).
11. Wateringbury (Goodwin MS.) (V.C.H. (1908)); imago, 1934 (J. Fremlin). Hoads Wood, three at light, August 31, 1931 (A. M. Morley). Tonbridge, several larvae on oak, 1951 (H. E. Hammond). Sevenoaks Weald, larva, July 7, imago emerged July 24, 1959; imago at m.v., August 17, 1959 (E. A. Sadler).
12. Ham Street Woods.—About fifty at light, July 26, 1934 (A. M. Morley); July 20, 1934, August 20, 1939 (A. J. L. Bowes); fairly numerous at light, though mostly ♂♂; several ♀♀ at m.v., late July 1951 (C.-H.); about 12 ♂♂, August 15-20, 1960 (C. R. Haxby and J. Briggs). Charlham, one, 1949 (P. B. Wacher).
13. Southborough (M. M. Phipps, in Knipe (1916)). Tunbridge Wells.—♀, September 1885 (Bone, *Entomologist*, 18: 263); ♂, 1891 (Beeching, *Ent. Rec.*, 2: 229). Broadwater Down, one (Knipe (1916)). Adams Well, near Langton, one beaten from oak (Given (1946)).
14. Hawkhurst (Melville, *Entomologist*, 5 (74), ii). Sandhurst; Benenden (G. V. Bull).
16. Near Sandling Junction, 1929 (Morley (1931)). Sandling Park, ♀, on oak trunk, August 25, 1942; Folkestone Town, two at m.v., 1952, ♂, at m.v., August 30, 1954 (A. M. Morley).

VARIATION.—Tugwell (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1891: 145) records a "very dark specimen", that he bred from a larva taken at West Wickham; and a ♂ ab. taken by me at Orlestone Woods, July 1951, may

be described as having the ground lightly suffused with purplish-brown (C.-H.).

A ♂ ab. in D. G. Marsh coll., bred Herne Bay, 1927, is referable to ab. *nigrilinea* Cockayne.

The following abs. are in R.C.K.:—*dorsomaculata* Lempke, 3 ♂♂, 6 ♀♀, bred from larvae, Ham Street, 1937, one, ♀, N. Kent, bred; *mediofasciata* Lempke, ♂, bred from larva, Ham Street, 1937; *eremita* Hub., 3 ♂♂, N. Kent, A. W. Mera, bred 1914, 1915, 1916; *atra* von Linstow, 2 ♂♂, N. Kent, A. W. Mera, 1914, 1915.

FIRST RECORD, 1828: Stephens, *loc. cit.*

#### LASIOCAMPIDAE

##### **Malacosoma neustria** L.: Common Lackey.

Resident, perhaps reinforced by immigration. Bushy places, orchards, hedgerows, etc.; on sloe, apple, plum, sallow, elm, laurel. Found in all divisions, though seemingly with a preference for low-lying areas on or near the coast. Usually fairly numerous, and occasionally abundant, but subject to periods of rather marked scarcity. "Generally common; formerly too abundant in the larval state, but now much scarcer" (V.C.H. (1908)).

There appears to be only one generation; but in 1879, a single specimen was noted at light at Lee on September 18 (Bower, *teste* Tutt, *Br. Lep.*, 2: 563), an exceptionally late date.

In the past, *neustria* has sometimes reached considerable proportions, to be followed by an appreciable decline. Thus, Newman (*Entomologist*, 4: 104) writing of the metropolitan area in 1868, said that ten years previously his apple trees were annually devastated by it, but that since that period not one had been noted until the present year, when it was again swarming in his neighbourhood; and Fenn (*Ent. Rec.*, 6: 230) referring to the same area, observed that in 1894, "though formerly one of our greatest pests", it was at the time of writing comparatively scarce. In 1918, Robertson (*Entomologist*, 51: 162) recorded a plague of larvae at Faversham, there being two or three nests on every apple and plum tree; and A. M. Massee informed me that in the orchards of East Kent during the 1920's, the species became such a pest, that special prayers were said in Canterbury Cathedral for the preservation of the harvest (C.-H.).

Though intermittent in many localities, in one area at least, notably Dungeness, the species seems to be permanently established. Morley (1931), in his well-known list, has: "Not common near Folkestone, but abundant at Dungeness"; to which I can add that over the past twenty-five years, I have myself found the larval nests with greater regularity at Dungeness than anywhere else in the county (C.-H.).

It is an interesting fact that in direct contrast to the foregoing, R. M. Prideaux, who resided and collected at Brasted (div. 10) for nearly half a century, wrote (*in litt.*, 1950) that he had never once seen *neustria* there; and the scarcity of its occurrence at m.v. at Wye and Willesborough, as noted as follows by W. L. Rudland, whose traps were run with great regularity, and who moreover kept a careful record of everything that appeared, are yet a further indication that the species may be more discriminating in its choice of habitat than has been generally supposed:—Willesborough, two, 1954, two, 1955, one, 1956; Wye, one, 1953, one, 1954, none, 1955-56.

The larva has often been found on apple, plum, sloe, sallow. R. G. Chatelain has noted it on elm at Chattenden; and there is an interesting record of larvae having been found on an evergreen, laurel, by G. Andrews, at Cliftonville in June 1953, from which imagines were reared by W. D. Bowden.

VARIATION.—I bred a long series from Dungeness larvae, taken June 16, 1951, and all collected from *Salix repens*: a few only were nymotypical, the majority being referable to ab. *virgata* Tutt, and ab. *pyri* Scop. (C.-H.).

Hills (in Tutt, *Br. Lep.*, 2: 549) notes that the batches from Folkestone Warren appear to have a preponderance of reddish-ochreous forms; and Tutt (*Br. Lep.*, loc. cit.) states that large broods that he bred from Farnborough were entirely fawn-coloured.

The following abs. from Kent are in R.C.K.:—♂♂—*virgata* Tutt; *cervina-virgata* Tutt; *pyri* Scop.; *vulgaris* Bork.; *rufa-unicolor* Tutt; *bicolor* Sibille. ♀♀—*cervina-virgata* Tutt; *virgata* Tutt; *pyri* Scop.; *rufa-unicolor* Tutt; *bicolor* Sibille; *annularis* Fourcroy, Bexley, one; *confluens* Selys; *fracta* Tutt, one, N. Kent, 1920.

FIRST RECORD, 1865: Abbey Wood (A. H. Jones, in Tutt, *Br. Lep.*, 2: 563). This is the earliest positive reference to Kent that I have been able to trace, though the species was doubtless first noticed in the county long before.

#### **M. castrensis** L.: Ground Lackey.

Native. Salt marshes; on *Limonium vulgare*, *Artemisia maritima*, *Plantago maritima*, *Trifolium repens*.

2. Appears to be spread over all the saltings from St. Mary's Marshes in the west to nearly to Seasalter in the east. Formerly the distribution range was less restricted and extended west as far as Erith according to Barrett (*Br. Lep.*, 2: 20); to which may be added the record of Stainton (*Man.*, 1: 156) that it occurred "on the banks of the Thames below Erith. [de Worms (*Lond. Nat.*, 1953: 127) has "Woolwich Marshes", but without particulars or authority; also "off Erith", where he says "it is still to be found", but again gives no authority]. It is perhaps now extinct on Higham and Cliffe Marshes (frequently referred to under Gravesend in the old records), for which there appears to be no definite recorded occurrence since 1871 (cf. Tutt, *Br. Lep.*, 2: 544-545).

The species is occasionally subject to intense fluctuation. Thus, Jones (in Tutt, *Br. Lep.*, 2: 543) says that "in 1871 in a field on Cliffe Marshes . . . the larvae could have been collected in thousands"; but in the same year Walker (*Ent. mon. Mag.*, 8: 185) mentions that at Queenborough, he could only find a few starved and stunted larvae although usually abundant there; and Ingall (*Zoologist*, 1855) noted a similar absence in Sheppey in 1846. Walker (*Ent. mon. Mag.*, 34: 252) states that in Sheppey, the floods of November 1897 proved disastrous to both *castrensis* and the Geometrid *Scopula emutaria* Hübn.

The imago is rarely seen wild. Walker took a ♀ on a wall opposite a lamp post, Sheerness, July 1868; Jones took a ♀ near Gravesend; Button noted one at Gravesend at light (Tutt, *op. cit.*, 2: 542); and de Worms (*Entomologist*, 69: 133) took two ♀♀ at light between Rochester and Sheppey, July 10, 1935.

Recent records of *castrensis* are:—Harty, Sheppey, three nests of small larvae, on *A. maritima* and *T. repens*, May 14, 1950; Chetney Marshes,

three nests totalling about seventy half-grown larvae, June 20, 1953; Nagden Marshes, between Faversham and Seasalter, 20-30 full-grown larvae, July 17, 1953 (C.-H.). St. Mary's Marsh, abundant, 1954 (G. A. N. Davis). Faversham, June 26, 1955 (Marsh and Youden, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1955: 76).

4. Herne Bay\* (Daltry, in Tutt, *Br. Lep.*, 2: 545) (there is a short stretch of salt marsh, 1 m. east of Reculver, to which this may refer (C.-H.)). [(Pegwell Bay, one would expect both *castrensis* and *Leucania favicolor* Mathew to occur on the saltings here, but careful search has so far failed to reveal either.)]

**VARIATION.**—In a series of some sixty specimens reared from larvae collected by me near Kingsferry, June 26, 1949, the nymotype predominates, ♂ ab. *albescens* Ckne., ♂ ab. *pallida* Tutt., ♂ ab. *intermedia* Tutt., ♂ ab. *bifasciata* Tutt., occurred severally, together with two ♀ ab. *taraxoides* Bellier, two ♀ ab. *rufa-virgata* Tutt, one ♀ ab. *unicolor* Tutt, also a number of apparently un-named ab. (C.-H.).

The following ab. and abnormal specimens from Kent are in R.C.K.: ♂♂ *obsoleta* Tutt; *pallida* Tutt; *fasciata* Closs, one, Sheerness, 1899; *intermedia* Tutt; *brunnea* Tutt; *hilleri* Standfuss; *albescens* Ckne., holotype. ♀♀ *taraxoides* Bellier; *virgata* Tutt; *rufo-virgata* Tutt; *venata* Standfuss; *unicolor* Tutt; *hilleri* Standfuss. Also a halved gynandromorph, left side ♂, bred Isle of Sheppey, August 7, 1842, T. Ingall (*Entomologist*, 28: 42).

A number of other aberrations have been recorded, and were described and exhibited by Bull (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1938-39: 14, 22; *op. cit.*, 1939-40: 18); several of these examples are in my coll. (C.-H.).

**FIRST RECORD**, 1803: "Larva in *Artemisia maritima* in Insular Sheppey copiose D. Curtis—alibi rarissima" (Haworth, *Lep. Britannica*, 1: 128).

### **Trichiura crataegi** L.: Pale Eggar.

Native. Woods, hedgerows; on hawthorn, sloe, oak, birch, Spanish chestnut, aspen. Chiefly Wealden, and mainly, if not wholly, off the chalk.

1. [Near Peckham in Kent (see *First Record*).] Birch Wood (Stephens *Haust.*, 2: 43). West Wickham, larvae, June 1856 (Machin, *Ent. week. Int.*, 1: 91). Lewisham, 1847 (Stainton, *Zoologist*, 1915). Lee, one, on a lamp, September 5, 1862 (Fenn, *Diary*); larvae, 1875 (Fenn, in *Wool. Surv.* (1909)). Blackheath, one, taken at rest on a wall (West, *Ent. Rec.*, 18: 171). Eltham, larvae, May 30, 1882 (Bower, in *Wool. Surv.* (1909)). Near Eltham, few at light (Fenn, in *Wool. Surv* (1909)).

2. Gravesend.—1890 (R. Adkin, in Tutt, *Br. Lep.*, 2: 496); on street lamps, odd ones every year, 1903-06, two 1904 (H. C. Huggins).

3. Herne, one 1907; Faversham\*, one, bred 1903 (J. P. Barrett coll.).

6. Dartford\* (Donovan, *Nat. Hist. Br. Insects*, 4: 23). Cuxton\* (Tutt, *Br. Lep.*, 2: 497). Longfield 1867 (Jennings, *Entomologist*, 4 (54)ii).

6a. Cockham Wood, larva on blackthorn; larvae common on white-thorn hedges at Higham\* and about Chattenden, 1875 (Chaney (1884-87)). Chattenden, larva, June 9, 1890 (Mera, in Tutt, *Br. Lep.*, 2: 495); larva, 1902 (H. C. Huggins). Near Darenth Wood\* (Stephens, *Haust.*, 2: 43).

8. Folkestone\* (Ullyett (1880)). Brook\*, about eight at light, 1954 (C.A.W. Duffield, teste E. Scott).

11. Betherden, eight bred, 1928-30, bred 1940 (G. V. Bull). Hoads Wood, larvae, 1923 (Scott(1936)); larvae, 1951 (E. Scott); ♀, 1954 (W. L.

Rudland); 1957, 1959 (P. Cue).

12. Ham Street Woods.—Scott (1936); Long Rope, larva, June 17, 1939, a few off oak and Spanish chestnut, May 1948, having a small whitish parasitical ovum attached to the skin externally; imagines occasionally at light, but only ♀♀ in my experience (C.-H.); larvae commoner than usual (de Worms, *Entomologist*, 83: 101); larva on birch, June 10, 1946 (H. King); imago, September 12, 1954 (de Worms, *Entomologist*, 88: 61); larva on aspen, June 3, 1956 (R. F. Bretherton); ♀, at m.v., Birchett Wood, September 16, 1953 (W. L. Rudland). Ham Street Village, 1957 (de Worms, *Entomologist*, 91: 152). Ashford, one on fence in the town, 1937 (Scott(1950)). Shadoxhurst, one, bred 1953 (le Ray, teste E. Scott). Willesborough, one, September 20, 1955, one, September 7, 1956; Wye, seven, September 5-14, 1953, one, September 22, 1954, two, September 1, 28, 1955, one, September 18, 1956 (W. L. Rudland).

13. Tunbridge Wells, scarce (A. D. Reed, *fide* E. D. Morgan).

14. Cranbrook, one, 1903 (Goodwin coll.). Near Woodchurch, larva, 1931 (Scott(1936)).

16. Folkestone Town, one, September 29, 1955 (R. W. Fawthrop, teste A. M. Morley); one, at m.v., September 20, 1957 (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1959: 43).

VARIATION.—In R.C.K. is ab. *pallida* Tutt, one, ♀, labelled "Kent, 1898 (Smart)". Also a halved gynandromorph, left side ♀, labelled "Kent. B. 30.ix.09."

FIRST RECORD, 1720: The larva "was found on an Oak near Peckham in Kent" (Albin, *Nat. Hist. English Insects*, facing plt. 82). It is not absolutely certain that this refers to *crataegi*, so that the first positive record dates from 1795: Dartford (Donovan, *Nat. Hist. Br. Insects*, 4: 23).

#### **Poecilocampa populi** L.: December Moth.

Native. Woods, lanesides; on birch, oak, elm.

1. West Wickham (Machin, *Ent. week. Int.*, 1: 91); four, November 23, 1947 (C.-H.). Bexley; Bromley; Erith; Lee; Crofton Park; Orpington; Eltham (*Wool. Surv.* (1909)). Chislehurst (S. F. P. Blyth); larva, May 19, 1923 (A. R. Kidner). Dartford, not uncommon (B. K. West). Petts Wood, 1946, larvae on birch, oak (A. M. Swain); two, 1947, one, 1948, one, 1949 (E. Evans). Joydens Wood (de Worms, *Lond. Nat.*, 1953: 127). Bromley, two, November 26, 1961 (D. R. M. Long).

2. Sittingbourne; Faversham; on street lamps (H. C. Huggins).

3. Herne Bay, one, c.1919 (A. J. L. Bowes). Chestfield (P. F. Harris). Canterbury, c.1948 (J. A. Parry).

5. Chevening, two, 1917 (Gillett, *Diary*). Westerham (R. C. Edwards).

6. Greenhithe (Farn MS.). Gravesend, 1922, 1925, on street lamps (F. T. Grant). Fawkham (E. J. Hare). Meopham, fairly common, November 1959-61 (J. Ellerton).

6a. Darent Wood (see *First Record*) (E. J. Hare). Chattenden (V.C.H., 1908); larva beaten from elm, June 1, 1925 (F. T. Grant).

7. Westwell (Scott (1936)); 1954 (C.-H.); forty-three, including both sexes, at porch light, 7.45 p.m., December 2, 1955 (Scott, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1955: 49). Boxley (A. H. Harbottle).

8. Reinden Wood (Morley (1931)). Stowting (C. A. W. Duffield). Wye, several ♂♂, 1938 (C.-H.). Bridge, c. 1946 (R. Goror). Dover (E. & Y. (1949)).

9. Margate, street lamp, November 24, 1931 (H. G. Gomm) (P. F.

Harris).

10. Brasted (R. M. Prideaux); 1912-13; larva, 1918 (Gillett, *Diary*). Sevenoaks, larva, 1919 (Gillett, *Diary*).

11. Wateringbury, few specimens 1895 (H. S. Fremlin); (V.C.H. (1908)). Yalding (V.C.H. (1908)). Shipbourne (Buxton coll.). Edenbridge, 1927-28, 1930, larva, 1927 (F. D. Greenwood). Hoads Wood (Scott (1936)); c. 1952 (P. Cue). Aylesford (G. A. N. Davis). Sevenoaks Weald, November 2, 14, 23, 25, 1959 (E. A. Sadler).

12. Ham Street (Scott (1936)); larvae on oak trunks in chinks of bark, May 1948 (C.-H.). Ashford (Scott (1950)). Willesborough, one, 1953, seven, 1955, four, 1956; Wye, 112, October 27-November 29, 1953, including 11 ♀♀; 36, October 31-December 1, 1954, including 4 ♀♀; 39, November 2-27, 1955; 380, November 4-December 6, 1956, including 151 on December 2 (W. L. Rudland). Willesborough, two, 1958 (M. Singleton). Orlestone Woods, three larvae, 1959 (M. Singleton and D. Youngs).

13. Pembury (V. M. Sage).

14. Sandhurst (G. V. Bull). Hawkhurst (W. A. Lawson).

16. Folkestone (A. M. Morley).

FIRST RECORD, 1828: Lanes about Darenth and Birch Woods (Stephens, *Haust.*, 2: 44).

#### **Eriogaster lanestris L.: Small Eggar.**

Resident, perhaps native. Hedgerows, woods, bushy places; on sloe, hawthorn, birch. Local and uncertain in appearance<sup>1</sup>. Only recorded since 1923 from S.E. Kent, and apparently not observed at all since 1951.

1. Bostall Heath, batch of ova, April 23, 1865 (A. H. Jones, teste Fenn, *Diary*). Abbey Wood (A. H. Jones, in Tutt, *Br. Lep.*, 2: 519), probably refers to the preceding record (C.-H.). Kidbrook; Burnt Ash Lane, Lee (West, *Ent. Rec.*, 18: 171). Bexley Woods, ova on birch branch, April 8, 1871 (B. A. Bower, in Tutt, *Br. Lep.*, 2: 506). Bexley district, abundant some years (L. W. Newman, in *Wool. Surv.* (1909)). Farnborough\*, 1893 (H. Alderson, in *Wool. Surv.* (1909)).

2. Minster, Sheppey, two nests, 1923 (H. C. Huggins).

3. Herne, 1903, four ♀♀, bred by J. P. Barrett (J. P. Barrett coll.).

6. Darenth Wood\*, not uncommon at times in the neighbourhood of Darenth Wood (Stephens, *Haust.*, 2: 45). Between Darenth Wood and Dartford\*, nine larvae June 22, 1862 (Fenn, *Diary*). Longfield, 1867 (Jennings, *Entomologist*, 4 (54) ii). Dartford\*, two, bred 1888, in Br. Mus. (S. Kensington) (C.-H.). Strood\*; Cuxton\* (Tutt, *Br. Lep.*, 2: 519). Greenhithe\* (V.C.H. (1908)). Eynsford, larvae on sloe, June 30, 1891 (R. Adkin, in Tutt, *Br. Lep.*, 2: 518) (Adkin, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1898: 90; *idem, op. cit.*, 1904-05: 31); four, bred 1905, B. W. Adkin, in Br. Mus. (S. Kensington) (C.-H.). Wilmington\*; Little Darenth\* (C. Fenn, in *Wool. Surv.* (1909)). Dartford Brent\* (West, *Ent. Rec.*, 18: 171).

6a. Chattenden Roughs, larvae not uncommon (Chaney (1884-87)).

8. Folkestone\* (Ullyett (1880); two taken by J. W. Walton, c. 1898 (A. M. Morley). Lyminge (S. G. Hills, in Tutt, *Br. Lep.*, 2: 519). Dover (Tutt, *Br. Lep.*, 2: 519); "once found round Dover, but has not been seen for several years" (E. & Y. (1949)).

10. Sevenoaks\* (V.C.H. (1908)).

11. Maidstone\* (Morris, *Br. Moths*, 1: 82). Wateringbury (Fremlin, in Tutt, *loc. cit.*).

12. Shadoxhurst, larval nests near Shadoxhurst in 1929 and 1933 (Scott (1936)). Near Kingsnorth, larval nest on sloe, June 21, 1946 (E. Scott).

15. Bonnington, nest, June 8, 1922 (G. V. Bull). Military Canal, larval nest, 1951 (E. Scott). Near Warehorne, July 18, 1948 (E. Scott).

FIRST RECORD, 1797: "Caterpillars are not very common . . . especially in Kent" (Donovan, *Nat. Hist. Br. Insects*, 6: 74).

<sup>1</sup>The moth has been known on the continent to remain in the pupal stage for one, two, three, five, six, and seven years (cf. Becker *teste* Newman, *Entomologist*, 1: 229), a characteristic that may to some extent account for this behaviour.

### **Lasiocampa quercus** L.: Oak Eggar.

Native. Woods, commons, lanesides, chalk downs and cliffs, etc.; on oak, sloe, broom, bramble, hazel, ash, elm, maple, *Hippophae rhamnoides*. Recorded from all divisions. Though still fairly frequent, especially in the woods of the Weald and Blean area, it appears to be generally less plentiful than formerly, the decrease being particularly noticeable in div. 1. Few records for 4, 9, 15. "Generally distributed but getting scarcer" (V.C.H. (1908)).

There do not appear to be many instances on record of the species having occurred plentifully during the present century. In the Dover district, it is stated that in 1921, larvae were abundant on bramble over a wide area, the imago appearing in thousands, but that it has been fairly scarce there ever since (E. & Y. (1949)); and at the other end of the county, at Keston (div. 5) in 1922, larvae were noted in abundance on herbage (F. A. Swain). At Edenbridge (div. 11), a dozen or more ♂♂ were attracted to bred ♀♀ in 1933 (F. D. Greenwood); and in Old Park, Canterbury (div. 3), larvae were abundant on broom, c. 1944 (J. A. Parry). Larvae were fairly common at Fawkham (div. 6) some ten to fifteen years ago, and particularly so in 1951 (G. G. E. Scudder); and at Long Rope, Ham Street; about a dozen ♀♀ were attracted to light, end July 1951 (C.-H.).

1. Lewisham district, 1894: "Formerly abundant as larvae; now a day's work within a radius of ten miles from Lewisham would hardly yield a dozen" (Fenn, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1898: 60).

The only recent records for this division are:—Farningham Wood, two larvae, September 1930; young larva on hazel, September 27, 1934 (A. R. Kidner). Wilmington, two, bred 1939 (S. Wakely); still there (L. T. Ford, *in litt.*, x.1952). Elmstead Woods, one, August 1, 1946 (D. F. Owen). Dartford, larvae not uncommon most years throughout district (B. K. West, *in litt.*, 1952). Joydens Wood (Owen, *teste de Worms, Lond. Nat.*, 1953: 128).

4. Ham Marshes, one, August 5, 1889 (Fenn, *Diary*). Deal, larvae on *H. rhamnoides*, June 11, 1908; larvae, May 9, 1909 (P. A. Cardew, *Diary*).

9. Nash Court, ♀, July 20, 1925 (H. G. Gomm, *Diary*). Westgate, full-grown larva, c.1929 (C.-H.).

15. Dungeness, one taken, 1953 (R. Pank, *teste* A. M. Morley). Greatstone, larva on *H. rhamnoides*, June 1958 (Wakely, *Ent. Rec.*, 71: 94).

VARIATION.—The following abs. from Kent are in R.C.K.:—♂♂ abs. *curvata* Tutt, several, N. Kent; *latovirgata* Tutt, several, N. Kent; ab. with "elongated discoidal spot", one, N. Kent; *basipuncta* Tutt, N. Kent; *marginata* Tutt, one, "Folkestone, Aug. 1934, L. W. Newman", one, "Dover, 1896 (Morgan)". ♀♀ abs. *virgata* Tutt, several; *rufescens-virgata* Tutt, several; *ochracea-virgata* Tutt, one, N. Kent; *ferruginea* Lambillion, two, N. Kent.

Newman (*Ent. Rec.*, **10**: 48) records an ab. bred 1896 from Darenth larva, "the forewings being entirely of a dull smoky colour, the transverse bar being also dull brown, . . . hindwings are of a very distinct pale brown"; Colthrup (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1902: 102) exhibited a ♂ bred from a Deal larva, "with splashes of yellow, or epaulettes, at base of forewing"; and in Br. Mus. (S. Kensington) is a ♀, labelled ab. *olivacea-fasciata* Cockll., Herne Bay, A. West (C.-H.).

FIRST RECORD, 1794: Darenth Wood (Donovan, *Nat. Hist. Br. Insects*, **3**: 84).

**L. trifolii** Schiff.: Grass Eggar.

Native. extinct. Chalk downs; on "trefoil".

6. Near Darenth Wood (see *First Record*); formerly taken in tolerable plenty by Lewin, but has not occurred in the neighbourhood of late years (Stephens, *Hast.*, **2**: 40).

Ssp. **flava** Tutt.

Native, Shingle beach; on broom, *Hippocrepis comosa*, "dock", "clover", *Arrhenatherum elatius*. Local in 15.

[8. Folkestone.—"Cocoons under stones in Warren; in August. I do not know to what other species these can be referred" (Knaggs (1870) ("Dover" (V.C.H. (1908)) may be based on this record). Doubtful if *trifolii* (C.-H.).]

[9. Ramsgate, common (Stainton, *Man.*, **1**: 153). Probably erroneous (C.-H.).]

15. The range of *flava* in Kent extends from Greatstone to the Sussex border. It is restricted to the shingle, is chiefly maritime, and does not appear to extend inland for more than about 2 miles. Its headquarters are evidently at Dungeness and the immediate vicinity, and it has been taken principally about the level-crossing, the Open Pits, lighthouse, and the bird sanctuary.

First recorded from Romney Marsh [Dungeness] by R. Mitford, who states that he found larvae there in May 1866, "feeding in the tufts of a very wiry grass growing in the shingle above high water mark" (cf. Bond, *Proc. ent. Soc. Lond.*, 1867: lxx; Bond, op. cit., 1871: xxxix); and since noted by many other observers but until the late 1920's the locality appears to have been known to only a few. The place of capture on labels of old specimens is usually disguised as "Romney Marsh" or "East Kent", and there are many such examples in Hope Department, R.C.K., and Goodwin coll., dating back to 1871, 1896, 1903, 1909-17. Several of these are labelled "Dover", doubtless in error (they were probably received from Sydney Webb, who resided at Dover, and hence assumed to have been taken there); and a few others are labelled "Deal", also doubtless in error.

Imagines, mostly ♀♀, often occur at light, but are usually not very numerous; de Worms (*Entomologist*, **70**: 80, **92**: 73) however, states that it was plentiful at light, August 18, 1936, August 30, 1958. On the other hand, ♂♂ will assemble freely, and occasionally in great abundance; thus, A. J. L. Bowes (*Diary*) records that on the night of August 17, 1936, he saw 150 ♂♂ assemble to a freshly emerged ♀. It is interesting to note, incidentally, that Kettlewell (*Ent. Rec.*, **49**: 45) found the habit of assembling at Dungeness to be quite different from that of *trifolii* in Cornwall.

The larva is chiefly found on a dwarf form of broom. It has also been noted on *H. comosa* (Symes, *Ent. Rec.*, **66**: 288); on "grasses, dock, and clover" (A. J. L. Bowes, *in litt.*); and on *A. elatius*, by E. C. Pelham-Clinton, who writes (*in litt.*) that he noted many on this, June 6-7, 1950, mostly at night and feeding on the flower-heads. Although larvae are normally found singly, and often scattered over wide stretches of shingle; comparatively large numbers have sometimes been located within a relatively small area. Thus, on June 16, 1951, for half an hour before dusk, I noted about forty nearly full-fed larvae within an area of roughly 20 yards square; such concentrations, however, do not appear to constitute permanent colonies (C.-H.).

E. Scott informed me (*personal communication*, 1953) that the larva appears to have priority as a diet for the fledgling of the Wheatear; and that this habit of the Wheatear feeding larvae of *trifolii* to its young, was first noticed by the late bird warden Major Elliot.

**VARIATION.**—Tutt (*Br. Lep.*, **3**: 10) distinguishes as ab. *flava*, a pale yellow form with distinct dark, transverse, pale-edged band. The form is fairly variable *inter se*, and a number of modifications have been named:—ab. *obsoleta-flava* Tutt, without any markings; ab. *pallida-flava* Tutt, with indistinct pale band between the lines; ab. *contracta-flava* Tutt, with median band constricted or interrupted. Tutt (*loc. cit.*) grouped the above ab. together as belonging to a "distinct yellow race", which he said "appears to be confined to the coasts of Kent and Sussex, between Rye and Lydd"<sup>1</sup>, and added that it had not been noted from any other part of the Palaearctic region.

The majority of Dungeness specimens are pale fulvous, ab. *mitfordi* Ob.; and nymotypical *flava* is relatively uncommon. Ab. *obsoleta-flava*, a striking ab., is comparatively rare, being approximately 1% only of the population, and of which the two examples I possess are both ♂♂. In a number of specimens in my series, there is a tendency for the ground to become fawn-grey, particularly in the ♀♀, and in this respect apparently resembling *cervina* Tutt (C.-H.).

In R.C.K. is a very large series of ♂♂ and ♀♀ from Kent, referable to *flava* Tutt (*sens. lat.*), including the following:—♂♂ ab. *pallida-flava* Tutt, fourteen, including one, "Romney Marsh", bred September 1903, "larva from S. G. Hills", and one, "East Kent, Aug. 9, 1917, L. W. Newman"; *obsoleta-flava* Tutt, twenty-one, including one, "Romney Marsh", bred July 1912, C. W. Colthrup, and one, "1896, Romney Marsh, bred", S. Webb; *contracta-flava* Tutt, eight; "ab. *contracta*", two, Romney Marsh, 1911, one, Romney Marsh, 1912; "*contracta* with elongated spot", one, "Romney Marsh, 9.8.1910, B. W. Adkin", one, "Romney Marsh, 1911". ♀♀ ab. *pallida-flava* Tutt, numerous; *cervina* Tutt, fifteen; *obsoleta-flava* Tutt, seven; *contracta-flava* Tutt, twenty-two. Also a gynandromorph, right side ♀, "East Kent, August 1923, L. W. Newman".

A number of other ab. and abnormal examples have been recorded (cf. *Proc. S. Lond. ent. nat. Hist. Soc.*, 1898: 89; 1919-20: 88; 1931-32: 91; 1932-33: 107; 1945-46: 30. *Ent. Rec.*, **26**: 166. *Ent. mon. Mag.*, **8**: 190). Also, a gynandromorph, exhibited by Eagles, bred from larva found by Bull at Dungeness (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1932-33: 108); and an intersex, bred from larva collected, 1949, exhibited by Christie (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1949-50: 25).

FIRST RECORD, 1793: "The larva feeds on trefoil, pupates in June, the imago coming forth the latter end of August. These larvae are to be met with on the uncultivated grassy chalk-hills of Kent, particularly near Darenth Wood; they secrete themselves under stones in the day, and come forth to feed in the evening" (Lewin, *Trans. Linn. Soc.*, 3: 3, plt. 2, figs. 1, 2). "In 1790 I kept two pupae" . . . which produced *Inchneumon chrysopus* Marsham (Lewin, *op. cit.*, 4).

<sup>1</sup>But it appears that the range does in fact extend as far as Eastbourne; and in R.C.K., is a ♂ ab. *obsoleta-flava*, "Eastbourne, Sharp, 1909".

### **Macrothylacia rubi** L.: Fox.

Native. Chalk downs and banks, woods (especially amongst heather), coastal sandhills, waste places, rough fields, etc.; on *Helianthemum chamaecistus*, *Poterium sanguisorba*, Wild rose, "heath", *Hippophae rhamnoides*. Recorded from all divisions, except 2, 10-11, 14 (probably present in at least the last three). Frequent in 3-8, 12-13, 15; rare or extinct in 1; few records for 9, 16. "Generally distributed, sometimes common" (V.C.H. (1908)).

Obs.—Folkestone, 1892, larvae in enormous numbers, nearly all with conspicuous white ichneumon eggs attached (Adkin, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1892: 75). Deal, larvae on *H. rhamnoides* (Westwood, *per Ent. mon. Mag.*, 13: 168). North Downs, larvae on heath, etc. (F. T. Grant). Wye, hoards of larvae, autumn, 1895 (Theobald, *Ent. mon. Mag.*, 32: 39). Long Rope, Ham Street, two ♂♂ at m.v., May 30, 1950 (C.-H.).

1. Shooters Hill (Stephens, *Haust.*, 2: 39). Birch Wood (Courtney, *Entomologist*, 1: 227). Abbey Wood, one, May 14, 1864 (Fenn, *Diary*) (*Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1898: 60). Dartford Heath, C. Fenn; Keston, W. Barnes; Eltham, formerly common, A. H. Jones; Shooters Hill, W. West (*Wool Surv.* (1909)). [West Wickham; Keston; Hayes (de Worms, *Lond. Nat.*, 1953: 128), want confirmation].

9. Between Margate and the River Stour (H. C. Huggins).

16. Folkestone (A. M. Morley).

VARIATION.—The following abs. from Kent are in R.C.K.:—♂♂ ab. *ferruginea* Tutt, one, "Folkestone, bred 6.1903", one, N. Kent, bred 1931; *ferruginea-unilinea* Tutt, one, "Shoreham, Kent, H. H. Clarke, 3.6.11". ♀♀ ab. *pallida* Tutt, four; *grisea* Tutt, three; *laticans* Cockayne, para-type, "North Kent, vi.1919"; *cervina-approximata* Tutt, E. Kent, 1917, bred L. W. Newman.

FIRST RECORD, 1828: Stephens, *loc. cit.*

### **Philudoria potatoria** L.: Drinker.

Native. Marshes, ditches, lanesides, woods, etc.; on *Phragmites communis*, *Calamagrostis [epigejos]*, *Carex paniculata*. Recorded from all divisions, except 9. Fairly plentiful, particularly in 2, 4, 15; but apparently extinct in 1. "Generally common, abundant at some places" (V.C.H. (1908)).

Although generally a species of wet environment, it is stated (Tutt, *Br. Lep.*, 3: 176) that around Chattenden Woods, the larvae abound in the long grass growing on the inside of all hedges in quite dry situations; and according to Stockwell (in Tutt, *op. cit.*, 3: 177), typical habitats at Dover, are hedgerows, thickets, copses, and banks.

The larva is frequently found on Reed (*P. communis*); it was also noted plentifully on *Calamagrostis*, in a ditch at Cliffe, June 11, 1939 (A. R. Kidner); and on *Carex paniculata* near Hothfield Lake, autumn, 1954 (E. Scott). Occasionally, the larvae are noted in extreme abundance; thus, Courtrice (*Ent. mon. Mag.*, **4**: 37) records that at Folkestone, in 1867, they might have been "gathered literally by pints".

1. The species has not, to one's knowledge, been observed in this much-worked division for over 50 years, a remarkable fact considering the number of references to its widespread occurrence here between 1860 and 1896, of both larvae and imagines. Tutt (*Br. Lep.*, **3**: 167, et seq.) gave the following localities: Lee, Lewisham, Erith, Bexley, Eltham, Kidbrook, and Burnt Ash. Also recorded from Sydenham (Sellon, *Ent. Rec.*, **2**: 164) (Buckle and Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1898: 60); Farnborough (Alderson, in *Wool. Surv.* (1909)); and Bexley district, common (Newman, in *Wool. Surv.* (1909)). In the spring of 1909, Sperring found larvae at Shooters Hill (*Ent. Rec.*, **22**: 13); its last known appearance in the division.

VARIATION.—The nymotype is the commonest form of the ♀ in Kent, but ab. *lutescens* Tutt is frequent; and ab. *diminuta* Tutt is probably the commonest form of the ♂, though many ♂♂ that I have seen might be called nymo-typical (according to the description of the ♂ type of *potatoria* as fixed by Lempke)<sup>1</sup>. In my series are several ♀♀ abs. from Sandhurst, bred by G. V. Bull, two of which closely approach typical ♂ coloration, also one of an unicolorous pale brown which is perhaps referable to ab. *inversa* Caradja. A ♂ ab. *berolinensis* Heyne, taken by me at light, Ham Fen, near Deal, July 2, 1955, is only the third yellow ♂ to have been noted in the county (C.-H.).

Newman (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1897 (2): 149; *Ent. Rec.*, **10**: 48) described and exhibited a ♂, bred from among 600 larvae taken at Darenth, 1896, as "of yellow coloration, somewhat similar to that usually found in the ♀s, the antennae, also, are of the same colour"; and Ovenden (*Ent. Rec.*, **18**: 18) recorded that from a larva found in the Rochester district, he bred in 1905, a ♂ of "the coloration of the lightest ♀s".

In R.C.K. are the following abs.:—♂ ab. *lilacina* Cockayne, paratype, E. Kent, 1929, L. W. Newman. ♀ ab. *berolinensis* Heyne, several, Dymchurch, 1932; *lutescens* Tutt, several; *obscura* Closs, one, Deal, bred 1938; *obsoleta-potatoria* Tutt, one, Bexley, 1903.

A number of other abs. have been recorded (cf. *Entomologist*, **24**: 223, **26**: 50, **69**: 133, **72**: 241; *Ent. Rec.*, **2**: 203; *Proc. S. Lond. ent. nat. Hist. Soc.*, 1891: 130, 1910-11: 141, 1931-32: 88; Tutt, *Br. Lep.*, **3**: 161-162).

FIRST RECORD, 1828: "Sundridge, Kent, in plenty" (Ingpen, in Stephens, *Haust.*, **2**: 52).

<sup>1</sup>Cf. Lempke, in *Ent. Rec.*, **62**: 1-11, for much valuable information on the variation of this species; also, Cockayne, in *op. cit.*, **62**: 65-66.

#### **Gastropacha quercifolia** L.: Lappet.

Native<sup>1</sup>. Hedgerows, bushy places, orchards, marshes; on blackthorn, hawthorn, apple, dogwood. Not usually a plentiful species, but markedly more numerous some years.

Obs.—Newman (*Ent. Rec.*, **12**: 219) states that in Kent, he normally found larvae early in April, low down on the stems of blackthorn, that they were always on the young wood, and particularly favoured hedges

that had been cut down, or a bank where there were young suckers among grass. He added that he had occasionally found it on apple, once on dogwood, but that the principle foodplant is blackthorn.

1. Recorded from many localities in this div. Recent records are:—  
Bexley (Edwards, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1944-45: 13). Dartford, fairly common throughout district (B. K. West). Petts Wood, both sexes frequent at light, 1947-49, scarcer 1950 (E. Evans). West Wickham, 1951 (E. Trundell). Footscray, larvae, 1949 (J. F. Burton). Orpington, 1954 (L. W. Siggs); four, 1957 (R. G. Chatelain).

2. Gravesend, larva and imago; Faversham, larva (H. C. Huggins). Dartford (B. K. West).

3. Herne, ♂, bred 1903, J. P. Barrett (J. P. Barrett coll.). Herne Bay, occasional; July 22, 1936 (A. J. L. Bowes). Eddington, as many as three or four at light in a night, c. 1950 (D. G. Marsh). Whitstable (P. F. Harris). Broad Oak, ♂, at light, July 21, 1938, larva on apple, c. 1940, ♂, at light, July 22, 1951 (C.-H.).

4. Deal; Ham; Sandwich; single specimens (E. & Y. (1949)). Ickham, quite plentiful at light (D. G. Marsh, *in litt.*, 1962).

5. Westerham (R. C. Edwards).

6. Springhead (E. Andrews, in Chaney (1884-87)). Greenhithe (Farn MS.). Gravesend, larva and imago (H. C. Huggins); larvae on stems of sloe, April 12, 1914, larva, May 9, 1919, larva, April 5, 1926 (F. T. Grant). Ryarsh, larvae, 1934 (J. Fremlin). Eynsford (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1933-34: 33, 1934-35: 10). Pinden, common (E. J. Hare).

6a. Darent Wood (see *First Record*). Chattenden, larva, 1904 (Ovenden, *Ent. Rec.*, 16: 159).

7. Westwell, ♂, July 7, 1945, very common, mid July 1946 (E. Scott) (*Bull. Proc. S. Lond. ent. nat. Hist. Soc.*, 1946-47: 168).

8. Folkestone Warren (Knaggs (1870)); one, July 30, 1946 (R. Fairclough, teste A. M. Morley). Brook; Wye (C. A. W. Duffield). Dover, one, 1954 (B. O. C. Gardiner). River, one (E. & Y. (1949)).

9. Ramsgate (Willson, *Entomologist*, 23: 139). Margate, larvae, 1901 (Colthrup, *Ent. Rec.*, 13: 306); 2 ♂♂, bred 1905, ♂, bred 1907 (J. P. Barrett coll.); larva on hawthorn, June 18, 1931 (H. G. Gomm, *Diary*).

10. Sevenoaks, 1949, at light (F. D. Greenwood).

11. Tonbridge (Raynor, *Entomologist*, 6: 79). Yalding; Maidstone (V.C.H. (1908)). Bethersden, larva (Scott (1936)). Aylesford (G. A. N. Davis). Sevenoaks Weald, one, July 1, 1960 (E. A. Sadler). Hoads Wood (P. Cue).

12. Sellinge, imago, 1930, larva, 1931 (Serpyll, teste A. M. Morley). Mersham and Kennington, larvae (Scott (1936)). Wye, one, July 10, 1953, three, July 21-August 19, 1954, none, 1955, one, July 23, 1956; Willesborough, two, July 21-24, 1954, one, July 18, 1955, four, July 22-August 15, 1956 (W. L. Rudland). Ham street, one, July 20, 1934, by W. O. W. Edwards, one, July 11, 1947 (A. M. Morley). Orlestone Woods, one, July 22, 1938, about 12 ♂♂ at m.v., July 6, 22, 27, 1951 (C.-H.). Ashford (P. Cue).

13. Southborough (M. M. Phipps, in Knipe (1916)). Tunbridge Wells, on lamp-post, August 1948 (R. Crowson, in Morgan, *Lepidoptera of Tunbridge Wells MS.*).

14. Hawkhurst; Sandhurst (G. V. Bull). Hawkhurst, three, 1952 (B. G. Chatfield). Iden Green, two at light, 1951 (H. Boxall).

15. Dymchurch, 1952 (Wakely, *Ent. Rec.*, **65**: 43). Appledore, August 6, 1956 (W. L. Rudland). Dungeness, 1955 (de Worms, *Entomologist*, **89**: 93); one, 1957 (Haxby, *teste* A. M. Morley).

16. Folkestone, cocoon found in gooseberry bush, by D. Smith, May, from which ♀ emerged, July 9, 1945 (A. M. Morley); 3 ♂♂, 1951 (Morley, *Ent. Rec.*, **64**: 170); ♂, July 23, 1952, two, 1954, one, 1958, one, 1960 (A. M. Morley).

**VARIATION.**—A ♂ taken by me at Orleston Woods, 1951, is almost markingless, lacks the normal violet gloss in the marginal area, and the darkness towards the costal margin, and may be transitional to ab. *pallida* Spuler (C.-H.). In a ♂ ab., taken by R. G. Chatelain, Orpington, 1957, the markings are very pronounced and blackish.

The following abs. are in R.C.K.:—♂ abs. *purpurascens* Tutt, two. Kent; *suffusa* Tutt, three, Bexley; *hoegei* Heuacker, one, "Kent, 1918".

Also in R.C.K., are two remarkable melanic ♀♀, labelled "North Kent, bred vii.1954, R. L. E. Ford", which may be described as having the upper and undersides strongly suffused with blackish-grey, markings outlined darker, but with cilia of more or less normal coloration (C.-H.).

**FIRST RECORD**, 1798: Darent Wood (Donovan, *Nat. Hist. Br. Insects*, **7**: 43).

<sup>1</sup>One noted on N. Goodwin Light Vessel, 7 miles off Ramsgate, August 2, 1954 (T. Rouget, *teste* French, *Entomologist*, **88**: 129) suggests migration.

## BOMBYCIDAE

### **Endromis versicolora** L.: Kentish Glory.

Native, extinct. Open woodland heaths; on birch. Recorded from 1, 6, 6a, 10-12.

Apart from a few doubtful reports, the Kentish Glory has not been seen in the county since 1861, is now certainly extinct, and has probably been so for a very long time. It formerly occurred on heather-birch terrain in central and west Kent, and its range extended from Ashford in the east to well into the metropolitan area. So far as can be judged, it appears to have been generally fairly scarce.

**Early Records.**—The earliest recorded occurrence is to be found in Wilkes (*120 Copper Plates of English Moths and Butterflies*, 41), who wrote: "The Glory of Kent . . . was found about the Middle of April, 1741, flying in a Wood in the Day-time, near Cookham, by Westram in Kent. It was taken by William Constable". The only other reference to the species in Kent during the 18th century is that of Donovan, who in 1796 (*Nat. Hist. Br. Insects*, **5**: 63-64) made the following observation: "We cannot hesitate to suppose that this Moth has been found in England several times, particularly in Kent, but none of these remain at this period in the collections of the curious".

**19th Century Occurrence.**—J. P. Neale (*Trans. ent. Soc. Lond.* (1812), **1**: 324-5), who appears to have made quite a study of the species, wrote: "The larva of *Bombyx Versicolor* here delineated was beat off the Birch in Darent wood, near Dartford in Kent, June 6th, 1805, . . . the perfect insect . . . appeared 20th of March following, . . . a Collector has since had two of the same, both of which came forth crippled". "From that to the present period I have continued to search for more Larvae of this Moth; but my endeavours were ineffectual till the spring of 1810, when

in the same wood I beat another". "The two before alluded to were taken in the same wood, and a third (a female) by another person".

In 1828, Stephens (*Haust.*, 2: 34) stated that for several successive years he found the larva at Darenth-wood; in Dale coll., according to Walker (*Ent. mon. Mag.*, 45: 107), there is a ♀, labelled: "Old Standish, 1820, Darenth Wood"; and Edward Newman (*Ent. Mag.*, 1: 319) observed that in 1832, about mid-April, he saw numbers of ♂♂ on the heathy common on the south side of Birch Wood. No further mention of the species in Kent appeared until 1857, when Stainton (*Ent. week. Int.*, 2: 10) wrote in reply to a correspondent: "We have known the larva of the insect to be taken at Dulwich Wood [probably just over the border in Surrey], but that was before the Crystal Palace came to its present locality . . . Birch Wood and Darenth Wood are probably now the *nearest* metropolitan localities". Possibly by this time however, *versicolora* had already become extinct at these two places, for Stainton does not include them among the localities for the species in his Manual.

In Maidstone Museum are two ♂♂, each labelled as having been bred from "ovum found at Wateringbury in 1859 by the late R. H. Fremlin". The history of these insects was given by S. G. Reid, who wrote (*S. E. Nat.*, 1904: 51): "My friend Mr. R. H. Fremlin informs me that he found a batch of 15 to 20 eggs . . . near Wateringbury, many years ago, all of which were successfully bred, the perfect insects being given away to friends. There is I believe no subsequent record of the occurrence of this fine species in this neighbourhood, and Mr. Goodwin has recently taken freshly emerged females up to the woods where the eggs were found without any 'assembly' resulting, so that it is probably extinct at the present date".

What appears to have been the last authentic occurrence of *versicolora* in Kent, took place at Ashford in 1861. On April 5 that year, J. Dowsett wrote (in *Ent. week. Int.*, 10: 35): "A capture of this splendid insect was made here by a friend of mine at the beginning of this week; it flew to the gas-light between 8 and 9 p.m., and he has given it to me".

[West Wickham Wood, one flying, May 3, 1867; identification very uncertain (Blackburn, *Ent. mon. Mag.*, 4: 42). In 1916, C. H. Williams (*Proc. Lond. nat. Hist. Soc.*, 1916: 20) exhibited a series stated to have come from Sevenoaks, no further particulars were published however, and if genuine Kentish specimens, they were presumably very old.]

FIRST RECORD, 1773: Wilkes, 120 *Copper Plates of English Moths and Butterflies*, 41.

[(**Bombyx mori** L.: Mulberry Silkworm.

Doubtless an escape.

1. "Mr. J. Jenner Weir exhibited a specimen of *Bombyx mori* L., bred from a cocoon found by him on a mulberry tree growing in his garden at Beckenham, Kent, and remarked that the cocoon was placed against the trunk, and had not the usual loose silk around it . . . He had made every possible inquiry to ascertain whether any one in the neighbourhood had been rearing silkworms, but no one appeared to have been doing so". It was remarked that the wings of the specimen were fully developed, which was not usual with those reared in captivity; Mr. South adding, that in Japan there were two forms—a domesticated one and a wild one (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1891: 135).]

## SATURNIIDAE

**Saturnia pavonia** L. (*carpini* Schiff.): Emperor.

Native. Woods, commons, bushy places, heaths, waste places, etc.; on bramble, sloe, birch, hawthorn, hazel, oak, "sweet briar", elder. Mainly distributed in north and west Kent; apparently scarce and of rather uncertain appearance.

Note.—Not included by Scott (1936, 1950) for the Ashford district; nor by Embry and Youden (1949) for the Dover and Deal areas; and apparently extinct in the Folkestone area.

1. Birch Wood (Anon., *Ent. Mag.*, **3**: 309). West Wickham, ten ♂♂ assembled, April 18, 1857 (Barrett, *Ent. week. Int.*, **2**: 29). Farnborough (Alderson, in Tutt, *Br. Lep.*, **3**: 339). Keston (Colthrup, in Tutt, *loc. cit.*). Hayes Common, ♀ (W. A. Cope). Lee, bred 1861 (Fenn, *Lep. Data MS.*). Near Bromley, ♀ at light, April 24, 1868 (Jenner-Fust, *Ent. mon. Mag.*, **5**: 24). Pauls Cray Common, larvae on birch, June 15, 1889 (Fenn, *Diary*). Chislehurst, pupa, cocoons spun on heather, October 11, 1891 (Bower, in Tutt, *Br. Lep.*, **3**: 335). Eltham, 1880 (A. H. Jones, in Tutt, *Br. Lep.*, **3**: 319). Plumstead (West, in Tutt, *Br. Lep.*, **3**: 339). Abbey Wood, 3 ♂♂ assembled, 1952 (A. J. Showler). Upper Belvedere, ♀, 1952, ♂, 1954 (R. G. Rigden, teste A. J. Showler). Bexley, 1893 (Lathy, in Tutt, *Br. Lep.*, **3**: 337); common (L. W. Newman, in *Wool. Surv.* (1909)). Dartford Heath, April 25, 1870 (Bower, in Tutt, *Br. Lep.*, **3**: 335); not uncommon, 1909-10 (H. C. Huggins).

2. Gravesend (H. C. Huggins); brood of larvae on sloe, June 1946 (B. K. West). Stone Marshes, one half-grown larva found on hawthorn, June 2, 1952 (J. F. Burton).

3. Canterbury\* (Morris, *Br. Moths*, **1**: 92). Blean, brood of larvae on sloe, 1922 (L. T. Ford); odd imagines (J. Shepherd). Calcott, ♀, April 17, 1949; Broad Oak, ♀, taken flying at dusk at edge of wood, May 21, 1950 (C.-H.). Rough Common, Canterbury, one, c. 1947 (A. G. Mackonochie). Swalecliffe, one (J. Shepherd). South Street, Whitstable, larvae on bramble, many ♂♂ assembled (P. F. Harris); several in P. F. Harris coll., labelled, Whitstable, 1942-47 (C.-H.).

6. Rochester district\*, not common (Chaney (1884-87)). Otford (Newman, in Tutt, *Br. Lep.*, **3**: 339). Greenhithe\* (V.C.H. (1908)). Gravesend, ♀, May 6, 1912, thirty-one larvae, August 2, 1913, two ♂♂ assembled April 29, 1914, thirteen larvae on sloe, June 11, 1915, ♂ assembled, May 5, 1916, batch of ova on sloe, May 18, 1925 (F. T. Grant). Longfield (Jennings, *Entomologist*, **4** (54), ii); ♀, at street light, April 15, 1949, ♀, April 17, 1952 (G. G. E. Scudder). Pinden, larva occasionally (E. J. Hare). Cuxton\* (Tutt, *Br. Lep.*, **3**: 339). Stone\* (Bower, in Tutt, *loc. cit.*). Fairseat, one, April 9, 1961 (J. Ellerton).

6a. Darent, larvae on blackthorn, June 18, 1861 (Jones, *Ent. week. Int.*, **10**: 187). Chattenden, larval nest on hazel, June 21, 1884 (R. Adkin, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1886: 42); larva on oak, June 1, 1896 (Bower, in Tutt, *Br. Lep.*, **3**: 319).

7. Sittingbourne, larva; Faversham, larva (H. C. Huggins).

8. Folkestone Warren, larvae on bramble (Knaggs (1870)). Folkestone\*, two larvae on sweet briar, 1892 (Russell James, *Entomologist*, **26**: 50); young larvae, May 1897 (Lane, in Tutt, *Br. Lep.*, **3**: 337); ♂ seen, Canterbury Hill, May 7, 1928, ♂ seen, Golf Course, April 30, 1932, both by A.M.M., one, seen by E. C. Joy, May 7, 1933 (A. M. Morley).

10. Brasted, July 6, 1901 (Adkin, *Proc. S. Lond. ent. nat. Hist Soc.*, 1901: 22). Near Sevenoaks, ♂♂ assembled (W. A. Cope).
13. Tunbridge Wells Common, larvae, 1913 and 1918 (H. Hockey, teste E. D. Morgan) (W. A. Cope). Groombridge, larvae on elder, August 3, 1888 (Blaber, in Tutt, *Br. Lep.*, 3: 319).
16. Lower Sandgate Road, Folkestone (Knaggs (1870)); larvae swarming on bramble bushes "in the hollow past the turnpike gate" (Ulyett (1880), 10).

VARIATION.—The following abs. from Kent are in R.C.K.:—♂♂ abs. *lutescens* Tutt, one, N. Kent, 10.v.1909, L. W. Newman; *subobsoleta* Tutt, one, Bexley, bred 1942, one, N. Kent, bred May 1927; *ochraceofasciata* Schultz, several; *decorata* Schultz, one, N. Kent, 1905, L. W. Newman; ab. "inner wavy line hind wing obsolescent", one, "R. H. Rattray, Kent, 11 May 1914". ♀♀ abs. *trans. ad rosacea* Newnham, several; *flavomaculata* Schultz, one, "Bexley, bred March 1912, L. W. Newman". Also, ab. *nigrescens* Cockayne, holotype ♀, Tunbridge Wells, 1878, J. A. Clark (*Entomologist*, 42: 319, 84: 245; and presumably the one exhibited by J. A. Clark at Haggerstone Ent. Soc., November 1886, and recorded in *Young. Nat.*, 7: 248).

A gynandromorph, mostly ♂, N. Kent, May 4, 1909, in R.C.K., is probably the one described as a partial gynandromorph, Bexley, 1909, which was recorded and exhibited by L. W. Newman (cf. *Ent. Rec.*, 21: 185; *Proc. S. Lond. ent. nat. Hist. Soc.*, 1909-10: 78).

FIRST RECORD, 1836: Birch Wood (Anon., *Ent. Mag.*, 3: 309).

#### DREPANIDAE

##### **Drepana binaria** Hufn.: Oak Hook-tip.

Native. Woods, parkland, etc.; on oak. Frequent in 1, 6a, 10-14.

Obs.—Imagines of the second generation were particularly plentiful at m.v., at Orlestone Woods, the end of July 1951, including many ♀♀ (C.-H.). The larva has been recorded as having been found on oak, Sidcup, October 14, 1912 (A. R. Kidner).

3. Whitstable (P. F. Harris). Blean Woods (D. G. Marsh). Eddington, ♀, September 7, 1945; Broad Oak, ♀, at light, September 9, 1945 (C.-H.).

4. Ickham (D. G. Marsh).

5. Westerham (R. C. Edwards).

6. Gravesend, one, 1910, at street lamp, one, 1912 (F. T. Grant). Fawkham, one larva (E. J. Hare).

7. Wigmore Wood (Chaney (1884-87)). Long Beech Wood (Scott (1936)). Westwell, 1951, 1953 (E. Scott). Boxley (A. H. Harbottle).

8. Reinden Wood (Knaggs (1870)). Wye\* (Scott (1936)). Stowting (C. A. W. Duffield). Woolwich Wood (E. & Y. (1949)).

15. St. Mary-in-the-Marsh, one at car lights, July 31, 1948 (P. le Masurier). Dungeness, one, August 5, 1959 (R. G. Chatelain).

16. Folkestone Town, at m.v., three, August 20-25, 1951, three, July 30-August 18, 1953, three, May, three, August 12-September 2, 1954, three, August 6-29, 1955, three, August 3-8, 1959 (A. M. Morley).

VARIATION.—Second generation specimens occur more frequently in my experience, and are noticeably smaller and darker, being referable to gen. aest. *aestivaria* Lempke. A ♀ of the spring form, Ham Street, June 5, 1954, has al. expanse 36 mm. (C.-H.).

FIRST RECORD, 1835: Birch Wood (J. Standish, in Curtis, *Br. Ent.*, 555).

**D. cultraria** F.: Barred Hook-tip.

Native. Woods, particularly those on chalk; on beech. Frequent in 6, 7.

Obs.—It appears that the imago very occasionally comes to sugar, a single instance of this having been noted at Chatham (Esam, *Ent. Rec.*, 7: 90). The larva has been recorded as having been beaten from beech at Shoreham (S. F. P. Blyth); also five larvae on beech, Culverstone (div. 6), October 10, 1922 (F. T. Grant).

1. West Wickham (Wells, *Ent. Rec.*, 3: 35). Bexley, scarce (V.C.H. (1908)). Keston, one imago and several larvae beaten, September 1951 (W. A. Cope). Orpington, 1954 (L. W. Siggs). Greenwich Park, one, August 10, 1953 (J. F. Burton). Bromley, several at m.v., 1960-62 (D. R. M. Long).

5. Chevening, several, May 8-26, 1912; 1918 (Gillett, *Diary*). Westerham (R. C. Edwards).

6a. Knights Place (Pye, *Rochester Nat.*, 1896: 2 (51), 352).

8. Dover, 1900 (Stockwell, *Entomologist*, 34: 26); one, 1954 (B. O. C. Gardiner); one, September 9, 1962 (G. H. Youden). Cootting Down, near Barham, ♀, May 13, 1930 (Morley (1931)), Barfrestone; Kearsney; Whitfield (E. & Y. (1949)). Wye; Brook (C. A. W. Duffield). Chilham, June 10, 1951 (W. D. Bowden).

10. Seal (Adkin, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1905-06: 41); one, on fence, 1913 (Gillett, *Diary*). Brasted, occasionally at light (R. M. Prideaux); larva, 1916 (Gillett, *Diary*). Westerham (Carr and Turner, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1924-25: 107); 1934 (J. L. Atkinson). Sevenoaks, 1946 (F. D. Greenwood). Knole Park, one imago, August 24, 1956 (A. A. Allen).

11. Wateringbury, fairly common (V.C.H. (1908)). Aylesford (G. A. N. Davis).

12. Chartham (P. B. Wacher). Wye, one, June 11, twelve, August 11-26, 1953; one, May 27, one, August 4, 1954; one, June 8, three August 18-24, 1955; one, May 28, 1956 (W. L. Rudland). Ashford, May 19, 1954 (P. Cue).

13. Tunbridge Wells district (Cox, *Entomologist*, 4 (62), ii).

14. Tenterden, one (Beale, *Zoologist*, 4130). Cranbrook, one, 1956, taken by D. Streeter (C.-H.).

16. Sandling Park, taken by D. Saunders, 1929 (Morley (1931)).

VARIATION.—Second generation specimens apparently occur more frequently than those of the first brood, and are noticeably smaller and darker, being referable to gen. *aestiva* Speyer.

FIRST RECORD, 1853: Tenterden (Beale, *Zoologist*, 4130).

**D. falcataria** L.: Pebble Hook-tip.

Native. Woods, commons, etc.; on birch, alder. Fairly plentiful, particularly in the Weald, and recorded from all divisions, except 5 (probably present), 15; once only from 9, where it is perhaps casual. "Generally distributed and not scarce" (V.C.H. (1908)).

Regularly double-brooded, imago appearing May-June and again in August. In 1961, Long (*Ent. Rec.*, 73: 133) recorded one at Bromley, April 17.

The larva has mostly been found on birch. S. Wakely took larvae at West Wickham, 1927-30, on alder as well as on birch; and M. Enfield states that he found a colony of *falcataria* in 1959, in a small alder wood at West Ashford (div. 12).

## 9. Margate (P. F. Harris).

VARIATION.—Rather variable, particularly with regard to the ground colour. In a ♂ and ♀ that I have, taken Ham Street, July 29, 1946, and end July 1951 respectively, the ground is of an unicolorous deep brownish-ochreous, similar to that of *D. harpagula* Esp.; in another ♂ and ♀, from the same locality, taken May 1950, June 15, 1951, respectively, the ground is abnormally pale, having forewings of a pale straw, hindwings almost white, and may be referable to ab. *pallida* Stephens; the latter two specimens contrast strongly with a ♂, also from Ham Street, taken June 5, 1954, in which there is dark fuscous suffusion, especially on the forewing (C.-H.).

The following abs. and named forms from Kent are in R.C.K.:—ab. *ochracea* Lamb., gen. *vern.*, four; *tenuistrigaria* Lempke, gen. *aest.*, several; ab. *infernalis* Hoffmann, one, Bexley, bred 1906; "diaphanous" ab., 3 ♀♀, N. Kent, one ♂, Bexley.

FIRST RECORD, 1834: Darent and Birch Wood (Stephens, *Haust.*, 4: 6).

**D. curvatula** Borkh: Youden's Hook-tip.

Vagrant?

8. Dover.—A single ♀ taken by G. H. Youden in m.v. trap in his garden, August 13, 1960. From this, D. G. Marsh obtained ova, and in October 1960, twenty pupae, from which three imagines emerged, November 1960, and twelve others, April 17-25, 1961. Altogether 2 ♂♂, 13 ♀♀ were bred, a number of which were exhibited at S. Lond. ent. nat. Hist. Soc., October 28, 1961, and there first recognised by C. G. M. de Worms as *curvatula* (Youden and Marsh, *Ent. Rec.*, 74: 44, plt. 1, figs. 1-6).

FIRST RECORD, 1960: Dover (G. H. Youden).

**D. lacertinaria** L.: Scalloped Hook-tip.

Native. Woods, heaths; on birch. Frequent in 1, 6a, 10-12; apparently rather uncommon in 3-8, 13-16; probably casual in 15. "Generally distributed and not scarce" (V.C.H. (1908)).

3. Between Milsted and Canterbury\* (Morris, *Week. Ent.*, 3: 285). Blean, several, 1902-04 (J. P. Barrett coll.); two, bred 1934 from larvae (J. L. Atkinson). Bysing Wood (H. C. Huggins). Sturry, one, 1915, larvae on birch, August 23, 1919, from which three reared 1920 (H. G. Gomm). Herne, one, May 17, 1942 (P. F. Harris). Eddington, occasionally at light (D. G. Marsh).

4. Ickham, one, July 28, 1956 (D. G. Marsh).

5. Downe (de Worms, *Lond. Nat.*, 1953: 131).

6. Longfield (Jennings, *Entomologist*, 4 (54), ii). Culverstone, twelve larvae on birch, September 18, 1924 (F. T. Grant). Eynsford (Blair, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1933-34: 33). Shoreham, larvae, 1940 (H. E. Hammond). Fairseat, July 30, August 12, 1960 (J. Ellerton).

7. Park Wood, near Rainham (Chaney (1884-87)). Westwell, August 6, 1945, May 21, 1953 (E. Scott).

8. Folkestone\* (Ulliyett (1880)). Denton (Morley (1931)). West Wood, one, May 5, 1933 (A. M. Morley). Bridge, c. 1946 (R. Gorer). Waldershare (E. & Y. (1949)).

13. Tunbridge Wells, one, 1958 (L. R. Tesch, *fide* C. A. Stace).

14. Tenterden (Beale, *Zoologist*, 4130). Sandhurst (G. V. Bull). Hawk-hurst, singletons, 1952-53 (B. G. Chatfield).

15. Dungeness, ♀ at m.v., August 3, 1951 (C.-H.).  
 16. Folkestone Town, one, August 30, 1951, one, August 21, 1952, one, August 5, 1957, several, August 7-September 4, 1958, several, August 1959-60; all at m.v. (A. M. Morley).

VARIATION.—Schulze (*Berl. ent. Zeitschr.*, **57**: 118-119, plt. 3, figs. 10-12) described and figured ssp. *tacoraria* on the basis of 3 ♂♂, West Wickham, May 14, 1896, 2 ♀♀, Darent Wood, May 17, 1896. The main distinguishing features appear to be its small size; and in ♂♂, absence of dark freckling, and lack of subterminal line on forewing. Note:—In my series of Kent spring brood *lacertinaria*, which includes 4 ♂♂, 1 ♀, from West Wickham, in addition to specimens from other localities; al. expanse of ♂♂ is 30-33 mm., and of ♀♀, 33-35 mm.; in more than half the number of ♂♂, there is considerable dark freckling on forewing, and in many the sub-terminal line is fairly clearly indicated; two ♂♂, West Wickham, May 1951, are fairly strongly dusted with silvery-grey, and thus seem to approach ssp. *scincula* Hübn. in appearance (C.-H.).

In R.C.K. is ab. *erosula* Lespeyres, ♀, "Bred Fordwich, Vaughan sale", ♂, North Kent, July 1922.

FIRST RECORD, 1834: Darent Wood (Stephens, *Haust.*, **4**: 5).

#### **Cilix glaucata** Scop.: Chinese Character.

Native. Hedgerows, woods, bushy places; on hawthorn, bramble. Found in all divisions. Fairly plentiful, and apparently well distributed throughout the county. "Generally common" (V.C.H. (1908)).

On the basis of light captures alone, specimens of the aestival brood normally appear much more numerous than those of the darker vernal generation *obscurata* Lempke.

Gillett (*Diary*) records breeding an imago, March 29, 1918, from a larva taken at Chevening on hawthorn; the larva has also been taken by A. A. Allen, at Blackheath, on bramble as well as on hawthorn.

FIRST RECORD, 1860: Dartford Heath (Allchin, *Ent. week. Int.*, **7**: 188).

### ARCTIIDAE

#### NOLINAE

#### **Nola cucullatella** L.: Short-cloaked.

Native. Bushy places, hedgerows, wood-sides, orchards, gardens; on sloe, hawthorn, apple, plum. Fairly frequent, and found in all divisions.

I have frequently beaten the larva in fair numbers from sloe and hawthorn, but do not often see the moth, the only times being occasionally at m.v., and once on a fence beside a hawthorn (C.-H.). H. C. Huggins states that he has noted imagines sometimes swarming on plum trunks in orchards at Faversham. A. M. Morley has mostly observed imagines at m.v., but never in large numbers, also one at rest on a horse chestnut, at Folkestone. F. T. Grant records a larva in a garden at Gravesend on apple, May 24, 1926.

VARIATION.—In R.C.K. is ab. *fuliginalis* Steph., several, "England, Kent, Bexley, R. L. E. Ford, 1954". I have two extreme examples of *fuliginalis*, in which the ground is unicolorous blackish, bred by H. J. Turner, Brockley, 1890 (C.-H.).

FIRST RECORD, 1859: Tenterden (Stainton, *Man.*, **2**: 157).

**N. strigula** Schiff.: Small Black Arches.

Native. Woods; [on oak].

Normally single brooded, but in 1951, J. L. Atkinson took one on September 19, a very late date, and suggestive of a partial second generation.

1. West Wickham Wood (Douglas, *Zoologist*, 3183). Joydens Wood, one, August 1, 1887 (Fenn, *Diary*); five, 1922, one, 1925, all at rest on trunks (L. T. Ford). Bexley, one, 1899 (Carr, *Entomologist*, 33: 46).

3. Bossenden Wood, one, July 12, 1925, two, July 16, 1925 (H. C. Huggins). Clowes Wood, five, 1935, one, 1936, one, 1937, one, 1943 (P. F. Harris). Blean Woods, one fresh specimen, taken September 19, 1951 (J. L. Atkinson).

6. Greenhithe\* (Farn MS.); (V.C.H. (1908)). [Gravesend], one (Button, *Entomologist*, 5: 221).

6a. North Kent [Chattenden], 1875 (Tugwell, *Entomologist*, 8: 293). Chattenden Roughs, not common, sometimes at sugar (Chaney (1884-87)). Darent Wood, 1856 (Harding, *Ent. week. Int.*, 1: 76); one, in Hope Dept. (Woodforde, *Entomologist*, 54: 9); noted up to 1910, but very scarce (H. C. Huggins).

7. Chatham\* (Stainton, *Man.*, 2: 157).

[8. Hawkinge, June 19, 1910 (Bell, *Ent. Rec.*, 22: 176) (The locality and early date strongly suggest *Celama confusalis* H.-S. (q.v.) (C.-H.).]

11. Hoads Wood (Scott (1936)); August 3, 1954, one, July 13, 1955 (P. Cue).

12. Ashford neighbourhood (Chittenden, *Proc. ent. nat. Hist. Soc.*, 1899: 107). Ham Street Woods (Scott (1936)); one, July 15, 1939, one, July 22, 1946, about 12, July 6-7, and as many again July 20-30, 1951, one, June 21, 1952; all at light in Long Rope (C.-H.); two, July 21, 1939, one, June 23, 1946; one, by R. Lovell (in 1953) (A. M. Morley). Bourne Wood, nine one night, 1953 (G. H. Youden, teste E. Scott).

13. Kilndown, one, July 10, 1937 (G. V. Bull).

14. Tenterden, two (Beale, *Zoologist*, 4130).

FIRST RECORD, 1851: Douglas, *Zoologist*, 3183.

**N. albula** Schiff. (**albulalis** Hübn.): Kent Black Arches.

Resident. Woods, bushy places, waste land, etc.; on dewberry. Mainly maritime and submaritime. Local.

4. Sandwich, ♂, worn, flying at dusk, August 1, 1948 (C.-H.). Ickham, one, August 3, 1954 (D. G. Marsh).

6a. Chattenden<sup>1</sup>.—1859, two, July 10, two, July 15, taken by W. H. Allchin and W. Chaney (see First Record; *Ent. week. Int.*, 6: 188, 8: 5, 9: 59; Chaney (1884-87)); one, July 1860, by W. H. Allchin (Stainton, *Ent. Ann.*, 1861: 86); very common in 1874, according to A. H. Jones; less common in 1875, but eight taken by C. Fenn, and a few by other collectors, July 13, 1875 (Fenn, *Diary*). At Chattenden Roughs, 1876, so common that one might easily have taken a hundred larvae in an afternoon from dewberry leaves in spring, or forty moths during twilight in July (Adkin, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1926-27: 50). Larvae not uncommon [at Chattenden], 1880 (Porritt, *Entomologist*, 13: 163). "The keeper told me that the second plantation *albulalis* comes out a fortnight later than in the old locality" (Fenn, *Diary*, 21.vi.1884). Twelve taken by

Auld, July 1894 (Fenn, *Diary*). Four imagines taken in 1902 [at Chatten-den], "in as many evenings" (Ovenden, *Ent. Rec.*, **18**: 18). Huggins (*Ent. Rec.*, **65**: 308-9), in an interesting article on this species at Chatten-den, states that Peek, the keeper, took a moth in 1901, and three larvae in 1902. It is noteworthy that there is no definite record of the occurrence of *albula* at Chatten-den between 1860 and 1874<sup>2</sup>, or since 1902 (C.-H.).

8. Folkestone (Ullyett (1880)). Walmer, one, 1914 (H. G. Gomm coll.). Hadding Wood, near Dover, two at light, July 1937 (Embry, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1937-38: 22). Dover, one, July 1950 (B. O. C. Gardiner); singletions in garden at m.v., August 12, 1953, July 4, 1957, August 10, 1958, July 4, 8, 1959, July 16, 28, 1960 (G. H. Youden). Folke-stone Warren, three, July 30-August 1, 1946 (R. Fairclough). Wye Downs, ♀, at light, July 24, 1949, taken by C. A. W. Duffield (Scott (1950)).

9. Margate, July 20, 1919 (H. G. Gomm, *Diary*).

12. Ham Street.—One, July 1950 (E. J. Hare); one, 1951 (G. Law); one, at m.v., Long Rope, June 27, 1952 (C.-H.); one, June 24, 1953 (W. L. Rudland); one, August 5, 1954 (P. B. Wacher); one, July 1959, in the village (de Worms, *Entomologist*, **93**: 177). Ashford Town, one, July 21, 1955, at light in garden (P. Cue).

14. Tenterden, six, c. 1855 (S. C. Tress Beale, *Diary*). Sandhurst, one, July 13, 1952 (G. V. Bull).

15. Dymchurch, fifteen, July 1-10, 1952, on some waste land (Wakely, *Ent. Rec.*, **65**: 42; Marsh, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1952-53: 40); in 1953 and 1954, saw many and took ten good specimens (G. H. Youden). Dungeness, one, July 18, 1947 (R. Demuth, teste A. M. Morley); one, August 1954 (Michaelis, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 37); one, August 5, 1955 (de Worms, *Entomologist*, **89**: 93); one, July 28, 1956 (W. L. Rudland); one, 1959 (C. R. Haxby, teste A. M. Morley). Greatstone, one, 1957 (Wakely, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1957: 15); one, at light, August 1960 (D. Youngs).

VARIATION.—In my series of eighteen Kentish *albula*, including sixteen from Chatten-den, are three examples assignable to ab. *fascialis* Spuler, bred Chatten-den, 1899 (C.-H.).

In R.C.K. are ab. *nivalis* Caradja, two, "North Kent, received from F. J. Hanbury, 1907"; ab. *fascialis* Spuler, two, Kent.

FIRST RECORD, 1859: "On the 15th of July last I captured two fine specimens of this insect, also one a few days previously; the former were flying amongst long grass during hot sunshine; the latter was beaten up later in the evening" (Allchin, *Proc. ent. Soc. Lond.*, 1859: 77)<sup>3</sup>. This is also the first record for Britain.

<sup>1</sup>The following references to this species in Kent, probably allude to Chatten-den : *Entomologist*, **7** : 180, **8** : 218, 292; *Ent. mon. Mag.*, **11** : 68, **12** : 166.

<sup>2</sup>The statement by Bird (*Entomologist*, **6** : 238) that specimens were taken by Packman, July 1872, "no great distance from Dartford", possibly refers to Chatten-den.

<sup>3</sup>But recorded in error as *Celama trituberculana* Bosc (*centonalis* Hübn.), cf. *Ent. week. Int.*, **8** : 5.

#### ***Celama confusalis* H.-S.: Least Black Arches.**

Native. Parks, woods, orchards, etc.; foodplant unknown. Mainly on chalk. Apparently extinct in West Kent.

**Obs.**—Imagines have been mostly found by day, at rest on tree trunks. The species is normally single brooded; in 1950, however, P. B. Wacher took an imago in good condition on July 14, a very late date.

1. West Wickham Wood, June (Douglas, *Zoologist*, 3183); May 1857 (Tugwell, *Ent. week. Int.*, 3: 11); one, June 6, one, June 29, 1861 (Fenn, *Diary*). Bostall Wood, May 16, 1865 (Fenn, *Diary*). Erith Wood (Fenn, in *Wool. Surv.* (1909)), may refer to the preceding record. Joydens Wood; Birch Wood (Fenn, in *Wool. Surv.* (1909)).
3. Blean (V.C.H. (1908)). Bysing Wood (H. C. Huggins). Whitstable (P. F. Harris).
4. Ickham, one, June 11, 1959 (D. G. Marsh).
6. Greenhithe\* (Farn MS.).
- 6a. Darenth Wood, June 23, 1860 (Fenn, *Lepidoptera Data MS.*); one, May 31, 1863 (Fenn, *Diary*); May 1863 (Leigh, *Week. Ent.*, 2: 135). Cobham Wood, 1910 (H. C. Huggins); one, May 23, 1913, two, June 4, 1913, June 9 and 16, 1914 (F. T. Grant).
7. Not uncommon in and about Wigmore Woods, May 10-20 (Chaney (1884-87)). Woods near Chatham\* (Ovenden, *Ent. Rec.*, 21: 31). Chatham, one or two, 1908 (Poundall, teste E. D. Morgan). Sharsted, 1927 (H. C. Huggins). Westwell, one, May 19, 1948, and of fairly regular occurrence since (E. Scott, *personal communication*, 1954).
8. Folkestone\* (Ulliyett (1880)). Ellinge, ♀, June 9, 1928 (Morley (1931)). Folkestone Warren, two, May 26, 1929, one, May 21, 1933, several, May 27, 1938; Reinden Wood, five, May 21, one, June 26, 1929, four, May 28-29, 1930 (A. M. Morley). Folkestone\*, one, June 2, 1945 (E. D. Bostock). Dover, one, 1896, one, 1898, two, 1932 (H. D. Stockwell coll.). Dover to Deal, "found all over the district in moderate numbers" (E. & Y. (1949)). Ewell Minnis, May 30, 1932 (J. H. B. Lowe). Tilmanstone, one, June 7, 1934; Wye, two, May 28, 1928; Brook, one, May 8, 1937 (A. M. Morley). "Common on the downs from Brook to Crundale" (Scott (1936, 1950)). Whitehill Wood, Bridge, one, July 14, 1950† (P. B. Wacher). [Hawkinge, one, June 10, 1910 (Bell, *Ent. Rec.*, 22: 176); recorded as *Nola strigula* Schiff., but very probably *C. confusalis* in view of early date and locality (C.-H.).]
9. Margate.—June 24, 1915, one, June 4, 1919, one, May 1, 1920, two, May 7-8, 1921 (H. G. Gomm); common on sycamores in Northdown Park (P. F. Harris); two, May 28, 1951 (W. D. Bowden). St. Lawrence, May 31, 1949 (A. H. Lanfear).
11. Wateringbury, two (E. Goodwin coll.).
12. Ashford, frequent at light, 1951-55, several, early May 1957 (P. Cue); one, May 12, 1954 (E. Scott); 1958 (de Worms, *Entomologist*, 92: 69). Wye, one, May 29, 1953, one, May 28, 1955; Willesborough, three, May 14-26, 1954, one, June 7, 1955, one, May 31, 1956 (W. L. Rudland). Ham Street Village, 1960 (de Worms, *Entomologist*, 94: 159).
13. Tunbridge Wells district, scarce (Knipe (1916)); usually scarce (Given (1946)). Near Groombridge (Bull, *Proc. S. Lond. ent. nat. Hist Soc.*, 1932-33: 85).
16. Folkestone Town, on trunks, etc., two, May 1, 8, 1944, one May 1, 1945, two, May 14, 24, 1947, one, May 16, 1952; at m.v., four, 1953, one, 1954, two, 1956, four, 1958, one, 1961 (A. M. Morley).

FIRST RECORD, 1851: Douglas, *Zoologist*, 3183.

**Nudaria mundana** L. Muslin Footman.

Resident, perhaps native. Woods, wet places, gardens; foodplant unknown. Scarce and uncertain in appearancee. Apparently extinct in W. Kent.

1. Lewisham, 1845 (Stainton, *Zoologist*, 1194). Hither Green, Lee, two, July 27, 1861, sixteen taken, July 17, 1862; Eltham Swamp, abundant, July 14, 1866 (Fenn, *Diary*). Blackheath, on fences (W. West, in *Wool. Surv.*(1909)). Sydenham, quite common (Barrett, *Br. Lep.*, 2: 199).

2. Gravesend\* (see *First Record*). Greenhithe\* (Farn MS.).

3. East Blean, 1926 (H. G. Gomm, *Diary*). Ridgeway (A. J. L. Bowes). Whitstable, several ♂♂ (P. F. Harris). Broad Oak, one, August 2, 1946, one, July 31, 1948; both at light (C.-H.).

4. Deal, one, July 28, 1891 (Fenn, *Ent. Rec.*, 2: 203). Minster\*, 1914 (H. G. Gomm, *Diary*).

6a. Darent Wood (Stephens, *Haust.*, 2: 84). Chattenden Roughs (Chaney (1884-87)).

7. Darland Hill; Wigmore (Chaney (1884-87)). Boxley, one, "Boxley, E. Bartlett", in Maidstone Mus. (C.-H.). Bearsted (G. Law, teste E. J. Hare). Westwell, 1948 (E. Scott).

8. Folkestone\* (Ulliyett (1880)). Stowting (C. A. W. Duffield). Stelling Minnis, one, July 15, 1931 (G. H. Youden). Haddling Wood, Waldershare, two, July 16, 1937 (E. & Y. (1949)).

10. Sundridge, July 1825 (Ingpen, in Stephens, *Haust.*, 2: 84).

11. Yalding (V.C.H. (1908)). Wateringbury, eight (E. Goodwin coll.). Hoads Wood, August 3, 1954 (P. Cue).

12. Hothfield (H. C. Huggins). Near Sellinge (Morley (1931)). Hinxhill, July 24, 1934 (A. J. L. Bowes). Wye\* (Scott (1936)). Birchett Wood, Ham Street, one at dusk, July 16, 1932 (A. M. Morley); at light, July 24, 1934 (A. J. L. Bowes); July 27, 1951 (E. H. Wild). Brook (Scott (1950)). West Ashford, two ♀♀, taken along a hawthorn hedge, August 1960 (M. Singleton and M. Enfield).

14. Sandhurst, July 17, 19-21, 23, 30, 1932, July 10, 20, 26, 1933, July 24, 1934, July 16, 1935, July 4, 13, 16, 1937, July 19, 1939, July 3, 1943, July 5, 1945, July 12, 19, 1949, July 7, 15, 20, 1953; mostly noted at light, but not seen here previously to 1932, i.e., from 1923-31 (Bull, *Diary*). Hunts Wood, one, July 27, 1951 (G. H. Youden).

FIRST RECORD, 1809: ". . . prope Gravesend Com, Cantii, copiosissime" (Haworth, *Lep. Brit.*, 2: 156).

**Comacla senex** Hübn.: Round-winged Footman.

Native. Marshy places, carr; foodplant unknown. Extinct in 1.

1. Lee (see *First Record*); eleven, July 16-17, 1863 (Fenn, *Diary*) (*Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1898: 58); disappeared soon after 1878 (R. Adkin, in *Wool. Surv.* (1908)) (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1934-35: 56, 126). Eltham (V.C.H. (1908)); may refer to the preceding records.

2. Fairbrook Alders, near Faversham (Morris, *Br. Moths*, 1: 46). Dartford Marshes, one, July 20, 1887; three, July 6, 1889 (Fenn, *Diary*). Greenhithe (V.C.H. (1908)). Shorne Mead (H. C. Huggins). Higham, July 29, 1926 (F. T. Grant). Sittingbourne, several, June 26, 30, 1949 (C.-H.). Aylesford, 1954 (G. A. N. Davis).

4. Deal (Harding, *Entomologist*, 2: 194); July 9, 1891 (Fenn, *Ent. Rec.*, 2: 203). Sandwich (V.C.H. (1908)). Reculver, not uncommon on sedges,

♂♂, ♀♀, July 21, 23, 1935 (A. J. L. Bowes). Westbere, a few, July 23, 1946 (C.-H.). Ickham, plentiful at m.v. (D. G. Marsh).

6. Springhead, common (H. C. Huggins).
7. Bearsted (G. Law, teste E. J. Hare). Westwell, 1951 (E. Scott) (Scott, *Ent. Gaz.*, **5**: 123).

11. Hoads Wood, c. 1953 (P. Cue).

12. Near Canterbury\*, one, at sugar (Parry, *Entomologist*, **5**: 394). Hothfield Bog, common; Hinshill (Scott (1936)). Orlestone Woods, two, July 2, 1946 (C.-H.). Brook, 1951 (C. A. W. Duffield, teste E. Scott). Willesborough, one, August 3, 1954 (W. L. Rudland). Ham Street, 1959 (de Worms, *Entomologist*, **93**: 177).

13. Tunbridge Wells (Morgan, *Lepidoptera of Tunbridge Wells MS.*).

14. Tenterden (Morris, *Br. Moths*, **1**: 46).

15. Appledore, very plentiful, July 1898 (Heitland, *Entomologist*, **31**: 221). Dungeness, one, August 15, 1931, ten at dusk, July 23, 1932, many at dusk, August 3, 1934, one, August 4, 1935, three, August 11, 1946 (A. M. Morley); common at the ponds, August 5, 1934; July 22, 1935; August 6, 1938 (A. J. L. Bowes); fairly common, 1949 (Morley, *Trans. Folkestone nat. Hist. Soc.*, 1949: 17); four at light, 1956 (R. F. Bretherton); one, August 19, 1958 (E. C. Pelham-Clinton); 1959 (C. R. Haxby). Dymchurch, one, July 7, 1933 (A. M. Morley); 1952 (Wakely, *Ent. Rec.*, **65**: 44).

16. Folkestone Town, one, at m.v., 1954 (R. W. Fawthrop, teste A. M. Morley); one, at m.v., June 4, 1960; one, at m.v., June 7, 1961, "both unusually early dates" (A. M. Morley) (these abnormally early appearances are very remarkable (C.-H.)).

FIRST RECORD, 1861: Manor Farm Lane, Lee, "Stainton says he has taken it at the shallow pit" (Fenn, *Diary*, 2.viii.1861).

#### **Miltochrista miniata** Forst.: Rosy Footman.

Native, Woods; foodplant unknown. Frequent in 3, 6a, 10-14.

Obs.—Usually fairly numerous at light in Orlestone Woods, and on a good night, as many as 20-30 may be noted (C.-H.). Stone-in-Oxney (div. 14), one by day, July 4, 1933, near the border of div. 15 (A. M. Morley).

1. The only comparatively recent records for this division are:—West Wickham, at sugar, 1926 (S. Wakely); 1951 (E. Trundell). Lessness Abbey Woods (Newell, *Trans. Plumstead & Dist. nat. Hist. Soc.*, 1931-32: 12); 1953 (J. Green). Woolwich (de Worms, *Lond. Nat.*, 1953: 138); refers to the preceding occurrence. Dartford district (B. K. West). Farningham Wood, several, June 26, 1959 (R. G. Chatelain).

2. Sheppen, one, June 16, 1868 (J. Walker MS.).
4. Ickham, not uncommon at m.v. (D. G. Marsh).
5. Halstead, 1925 (Frampton, *Entomologist*, **59**: 173).
6. Pinden (E. J. Hare).
7. Westwell, July 5, 1932 (Bull, *Diary*). Boxley, 1953 (A. H. Harbottle).
8. Folkestone\* (Ullyett (1880)). Reiden Wood, 1882 (Salwey, *Entomologist*, **15**: 198); two at light, July 27, 1948 (A. M. Morley). Whitehill Wood, near Bridge, one, July 6, 1930 (A. M. Morley). Near Waldershare; Dover (E. & Y. (1949)).
16. Folkestone Town, ♂, at m.v., July 2, 1952; one, by R. W. Fawthrop, at m.v. (in 1954) (A. M. Morley).

VARIATION.—The ab. in which the wings are pale yellow without any trace of red, *flava* de Graaf (= *crocea* Bign.) appears to be rare, and only

two specimens from Kent are known:—Orlestone Woods, ♂, June 27, 1952 (C.-H., *Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 21); Holt Wood, Aylesford (div. 11), 1956 (Davis, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1956: 25).

FIRST RECORD, 1829: Near Darenth Wood (Stephens, *Haust.*, 2: 91).

**Setina irrorella** L.: Dew Moth.

Native. Chalk downs and undercliff, shingle beach; foodplant unrecorded. Very local. Doubtless long extinct in 1; probably casual in 11.

1. "Several specimens have been caught on Dartford-common and near Birch-wood" (Stephens, *Haust.*, 2: 99).

6. Near Rochester\* (see First Record). Shoreham, one, 1904 (R.C.K.). Shoreham; Otford (V.C.H. (1908)). Kemsing, one taken, June 1938 (A. M. Swain).

8. Dover.—"taken in some plenty", near Dover, June 1851 (Spilsbury, *Zoologist*, 3289). On the downs between Dover and St. Margaret's Bay, four, June 27-28, 1908 (P. A. Cardew, *Diary*). In 1932, J. H. B. Lowe, B. Embry, and A. M. Morley found between eighty and ninety larvae in April below Shakespeare Cliff by day; from those kept by A. M. M., 3 ♂♂, 6 ♀♀ were bred June 24-July 10 (A. M. Morley). Deal.—1858 (Baldwin, *Ent. week. Int.*, 4: 134); 1859 (Harding, *Ent. week. Int.*, 6: 91). St. Margaret's Bay, one, by J. W. Tutt, August 1, 1890 (Fenn, *Diary*). Folkestone.—Nineteen, June 1858 (Drury, *Ent. week. Int.*, 4: 102); 2 ♂♂, June 5, 1859 (H. Tompkins MS.); August 1-2, 1860 (Fereday, *Ent. week. Int.*, 9: 139); Warren, common, 1869 (Vaughan, *Ent. mon. Mag.*, 6: 94); common in the Warren towards the shore (Knaggs (1870)); July 1898 (Butler, *Entomologist*, 31: 243); in 1932, a larva, May 18, below the Royal Oak (A. M. Morley); two there, April 23, 1962 (C.-H.). Folkestone Warren.—One, at dusk, July 24, 1931, one, July 22, 1935, one, July 1, 1937, two, June 25, 1946, two, June 26, 1948 (A. M. Morley); a larva, below Capel, April 23, 1938, a larva, August 30, 1952, 2 ♀♀, July 2, 1955 (C.-H.); two imagines, May 25, 1953 (A. H. Harbottle).

11. Holt Wood, Aylesford, one at m.v., 1954 (G. A. N. Davis).

15. Dungeness.—Larva not uncommon on stones, 1935, 1938 (H. C. Huggins); locally very abundant in the Bird Sanctuary, June 22, 1938 (A. G. Peyton, teste A. J. L. Bowes); 20-30 disturbed from rough herbage by the Hope and Anchor, July 4, 1950, all in good condition (A. M. Swain); three, June 6, 1950 (E. C. Pelham-Clinton); June 30-July 3, 1954 (R. F. Bretherton); July 28, 1956 (W. L. Rudland); at light, July 7-8, 1959 (C. R. Haxby, teste A. M. Morley).

VARIATION.—In R.C.K. are the following abs.: *signata* Borkh., one, Folkestone, 1879, one Folkestone, 1885; *brunnescens* Hirschke, one, Kent, 1883, one, Dungeness, bred H. B. D. Kettlewell, 1938; *andereggii* H.-S., one, "Shoreham, 1904". Also, a heavily streaked ♂ ab., "Folkestone", "Coll. Boot of Derby".

All Dungeness specimens that I have seen have been of particularly good size; I have 1 ♂, 5 ♀♀, taken by A. G. Peyton, June 19, 1938, al. exp. of ♀♀ 25-28 mm., ♂ 31 mm. (C.-H.).

FIRST RECORD, 1816: "Taken copiously near Rochester in 1816, and the following year" (Henslow, in Stephens, *Haust.*, 2: 99).

**Cybosia mesomella** L.: Four-dotted Footman.

Native<sup>1</sup>. Woods, heaths, carr, etc.; foodplant unknown. Mainly off the chalk. No recent records for W. Kent, and apparently extinct in 1.

1. Birch Wood (Stephens, *Haust.*, **2**: 100). West Wickham (Barrett, *Ent. week. Int.*, **4**: 109). Pauls Cray Common, one, June 26, 1888, one, July 15, 1893 (Fenn, *Diary*); fairly common, 1911 (S. F. P. Blyth). Chislehurst (A. H. Jones, in *Wool. Surv.* (1909)), probably refers to St. Pauls Cray Common (C.-H.). Bexley dist. (L. W. Newman, in *Wool. Surv.* (1909)).
3. Blean Woods, twenty-four taken, June 10-11, 1865 (Fenn, *Lep. Data MS.*). Near Canterbury\*, a few at sugar (Parry, *Entomologist*, **5**: 394). East Blean Wood, Church Wood, and Clowes Wood, 1922-27 (H. G. Gomm, *Diary*). Mincing Wood, 1934 (A. J. L. Bowes). Timber Wood and Paddock Wood, common, 1938-39; Great Hall Wood, 1949; Church Wood, one, June 13, 1953 (C.-H.).
4. Ham Fen, five, July 9-11, 1891 (Fenn, *Ent. Rec.*, **2**: 203); one, c. 1955, one, July 3, 1960 (C.-H.). Deal (E. & Y. (1949)).
6. Greenhithe\* (Farn MS.).
- 6a. Darenth Wood (Stephens, *loc. cit.*); one, June 21, 1862 (Fenn, *Diary*). Chattenden, two, July 16, 1869 (Walker MS.); one, June 24, 1884 (Fenn, *Lep. Data MS.*); two or three annually, 1902-10 (H. C. Huggins) [Chattenden] (Porritt, *Entomologist*, **7**: 181).
8. Folkestone\* (Ullyett (1880)). Near Barham, one, 1926 (E. & Y. (1949)). Elham (W. E. Busbridge). West Wood, one, 1935 (C. J. Goodall, *teste* A. M. Morley); one, beaten out of spruce, June 19, 1950 (A. M. Morley).
10. Brasted, July 6, 1901 (Adkin, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1901: 22). Sevenoaks (W. E. Busbridge).
11. Yalding (V.C.H. (1908)). Hoads Wood, 1951, common, 1953 (E. Scott); 1956 (C.-H.). Aylesford, c. 1954 (G. A. N. Davies).
12. Ham Street Woods.—(Scott (1936)); of regular occurrence in many parts of Orlestone Woods, particularly so in the more open places, and heathy spots (C.-H.); June 2-5, 1950 (R. F. Bretherton); June 10, 1960 (R. G. Chatelain). Brook\* (Scott (1936)); 1951 (C. A. W. Duffield, *fide* E. Scott). Wye, one, June 22, 1956 (W. L. Rudland). Hothfield, July 6, 1957 (Philp, *Bull. Kent Fld. Cl.*, **3**: 8).
13. Tunbridge Wells district (Cox, *Entomologist*, **4** (62), ii). Tunbridge Wells (E. D. Morgan). Groombridge (Bull, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1931-32: 59).
14. Tenterden, common (Stainton, *Man.*). Hunts Wood, one, July 9, 1949 (G. H. Youden, *teste* A. M. Morley). Hawkurst, two, 1952-53 (B. G. Chatfield).
15. Dungeness.—A. L. Goodson informed me that near the Lighthouse on the night of June 29-30, 1954, he and G. Rance of Tring Mus. witnessed at m.v. the sudden appearance around midnight of about a hundred *mesomella*; the visitation lasted for about half an hour, nearly all were ab. *flava de Graaf*, and at times they appeared in such numbers that it was like "golden rain" (C.-H.); at light, July 7-8, 1959 (C. R. Haxby, *teste* A. M. Morley).

**VARIATION.**—I have frequently noted ab. *flava de Graaf* (*flava* Preiss) at Blean, and I also possess five *flava*, taken Ham Street, 1951 (C.-H.).

**FIRST RECORD, 1829:** Stephens, *loc. cit.*

<sup>1</sup>Possibly also an occasional migrant, judging by the extraordinary visitation at Dungeness on the night of June 29-30, 1954.

**Lithosia quadra** L.: Four-dotted Footman.

Probable immigrant. Woods, etc. Recorded from all divisions, except 3, 5-7, 14.

Altogether some sixty to seventy examples of *quadra* have been noted in Kent, all imagines so far as is known. It is interesting to observe that none was reported for the period 1908-34, but that in 1951, after a severe thunderstorm, the insect appeared in southern England over a very wide area, and in Kent alone a total of twenty-seven individuals (27 ♂♂, 1 ♀) was seen; thus strongly indicating a migratory movement from abroad, resulting in widespread invasion.

The earliest reference to the species in Kent is by Stephens (*Haust.*, 2: 97), who gives Darent and Birch Woods as localities. Thereafter, it was recorded as follows—(1853): “Kentish coast” [Deal], exhibited by H. J. Harding at Society of British Entomologists, September 6, 1853 (*Zoologist*, 4071). 1856: Near Dover (Harding, *Ent. week. Int.*, 1: 132) (St. Margaret's Bay (Tutt, *Br. Moths*, 67), and “near Dover” (S. Webb, in *V.C.H.* (1908)), may both refer to Harding's record); New Brompton, near Chatham, ♀, July (Chaney (1884-87)). N.D.: Ramsgate (Stainton, *Man.*). [c. 1870]: Folkestone neighbourhood, one, by Mr. Blackhall (Wellman, *Entomologist*, 13: 241). 1872: Sheppey, ♂, beaten out of ash tree (Walker, *Ent. mon. Mag.*, 9: 162). 1875: North Kent [Chattenden], July, “rare visitor to sugar” (Tugwell, *Entomologist*, 8: 292) (Chattenden Roughs, rare (Chaney (1884-87)), may refer to Tugwell's record); Darent Wood, exhibited by Messrs C. & S. Channon at South London ent. nat. Hist. Soc., November 4, 1875 (*Ent. mon. Mag.*, 12: 167). 1880: Between Folkestone and Sandgate, ♀ (Wellman, *Entomologist*, 13: 241) (Folkestone (Ulyett (1880)), may refer). 1891: New Cross, ♀, July 18, taken by A. E. Cook (Cook, *Entomologist*, 24: 196). [c. 1895]: Folkestone Town, “J. W. Walton said that there had been a small invasion and he had taken some at street lamps”; “W. J. Austen told me several were taken in Folkestone” (A. M. Morley, *in litt.*). 1902: Maidstone, ♂, August 12, J. Lower, in Maidstone Mus. (C.-H.). 1906: Chattenden, ♂, July 4, beaten out by H. C. Huggins (C.-H. coll.). 1907: Tunbridge Wells, ♂, on sunflower in Queens Road (E. D. Morgan). N.D.: Bexley (C. Fenn, in *V.C.H.* (1908)). 1935: Ham Street, ♂, June 26 (H. C. Huggins). 1938: Dover, ♂, at sugar, August 5, ♀, August 15, taken on the cliffs (Embry, *Entomologist*, 72: 15). 1939: Ham Street, ♂, August 20, taken by Russell James (Bowes, *Ent. Rec.*, 52: 77); ♀, at light, August 21 (H. C. Huggins); Sandwich, one, taken by T. Robinson (A. J. L. Bowes).

1951: Margate, ♂, July 31 (W. D. Bowden); Dover, eight ♂♂, August, at m.v. (Youden, *Entomologist*, 84: 261); Folkestone Town, ♂, July 31, ♂, August 4 (Morley, *Ent. Rec.*, 64: 171); Brook, three ♂♂, July 31 (Duffield, *Ent. Rec.*, 63: 179); Aylesford, ♂, ♀ (G. A. N. Davis); Dungeness, ♂, August 4 (C.-H., *Ent. Rec.*, 63: 247); Orlestone Woods, three ♂♂, August 1, two ♂♂, August 2 (C.-H., *Ent. Rec.*, 63: 247); one ♂, August 3, one ♂, August 7 (E. J. Hare); two ♂♂, August 3 (G. Haggett); ♂, August 3, H. S. & P. J. Robinson (R.C.K.); Folkestone Town, ♂, September 25 (R. Lovell).

1953: Ham Street, one ♂, July 6 (E. J. Hare). 1955: Dover, ♂, August 16, at m.v. (Youden, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1955, 47); Folkestone Town, ♀, September 23, 1955, taken by R. W. Fawthrop (A. M. Morley). 1956: Dover, ♂, July 27, ♂, July 31, both at m.v. (G. H. Youden); Wye, ♀, at m.v., July 27 (W. L. Rudland); Ham Street, ♂, August 2 (D. G. Marsh); Folkestone Town, ♂, August 13 (A. M. Morley). 1957:

Ashford Town, ♂ (P. Cue). 1960: Shorne Ridgeway, ♂, June (E. Trundell); Folkestone Warren, June 29, ♂, at m.v. (Mere, Proc. S. Lond. ent. nat. Hist. Soc., 1960: 15); Ham Street, ♂, June 24 (de Worms, Ent. Rec., 72: 246).

VARIATION.—In R.C.K. is a ♂ ab. *luteomarginata* Lamb., Ham Street, August 3, 1951.

FIRST RECORD, 1829: Stephens, *Haust.*, 2: 97.

**Eilema deplana** Esp. (**depressa** Esp.): Buff Footman.

Resident. Wood borders and bushy places on chalk; foodplant unrecorded. Local. Probably in more localities than the records indicate and perhaps increasing.

6. Near Kemsing (Carrington, *Entomologist*, 13: 77).

7. Westwell, ♂, July 26, 1951, taken by E. Scott (C.-H., *Ent. Rec.*, 63: 299); two, 1952, one, August 7, 1953 (E. Scott), ♂. August 10, 1956 (Marsh, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1956: 36). Boxley, one, 1953 (A. H. Harbottle). Kings Wood, Challock, two larvae beaten from ancient yews by L. C. Bushby, May 27, 1956 (Scott, *Trans. Folkestone nat. Hist. Soc.*, 1956: 5); "resulting from Bushby's discovery of the larvae on May 27, he and I together later collected 6-8 larvae, three of which I took and bred two months, June 29, July 5, 1956" (P. Cue, *in litt.*).

8. Dover, one, in m.v. trap, in garden, July 1, 1952 (G. H. Youden). Betteshanger, two ♂♂, at light, July 6, 1957 (R. F. Bretherton).

9. Margate neighbourhood, several specimens exhibited by S. A. Blenkarn, December 14, 1911 (Blenkarn, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1911-12: 89).

FIRST RECORD, 1880: Carrington, *Entomologist*, 13: 77.

**E. griseola** Hübn.: Dingy Footman.

Native. Marshy places, damp woods; foodplant unknown. Extinct in 1.

1. Eltham Swamp, three, July 20, 1865; Lee, one, July 21, 1865 (Fenn, *Diary*).

2. Greenwich Marshes, one, July 19, 1865 (A. H. Jones, teste Fenn, *Diary*). Greenhithe (Farn MS.). Gravesend, one at street lamp, July 21, 1914 (F. T. Grant). Burham Marsh, near Aylesford, one, 1954, one, 1955 (G. A. N. Davis).

3. Between Whitstable and Chestfield, singletons, 1936, 1942-43, 1946 (P. F. Harris).

4. Deal neighbourhood\*, 1858 (Baldwin, *Ent. week. Int.*, 4: 133). Minster Marshes, three, August 11, 1915, one, July 28, 1921, four, July 25, 1925, one, August 9, 1927 (H. G. Gomm, *Diary*). Sandwich (V.C.H. (1908)); July 30, 1951, three, August 3, fairly common, August 30, 1954 (W. D. Bowden); August 5, 1957 (R. F. Bretherton). East Stourmouth, four in bushes by day, July 28, 1933 (A. M. Morley). Ham Fen, about twelve at light, August 6, 1950 (C.-H.). Ickham, plentiful at m.v. (D. G. Marsh).

6a. Chatenden, odd ones, 1902-10 (H. C. Huggins).

7. Wigmore Wood, uncommon (Chaney (1884-87)). Westwell, one, August 5, 1952 (E. Scott).

8. Folkestone Warren, 1882 (Salway, *Entomologist*, 15: 198). Kingsdown, one, August 15, 1884 (Fenn, *Lep. Data, MS.*). St. Margarets, 1890 (Fenn, *Ent. Rec.*, 1: 204). Folkestone\*, one, August 16, 1907, in Br. Mus. S. Kensington (C.-H.). Whitfield, one, 1933 (E. & Y. (1949)). Reinden Wood, one at light, July 27, 1948 (A. M. Morley).

9. Ramsgate, one, c. 1914 (J. W. C. Hunt). Birchington, ♀, August 8, 1915; Quex Park, one, August 19, 1915; Nash Court, one, August 13, 1915 (H. G. Gomm, *Diary*).

11. Yalding (V.C.H. (1908)). Wateringbury (Goodwin MS.). Hoads Wood, 1951, August 6, 1953, 1954 (E. Scott); 1956 (P. Cue).

12. Near Canterbury\*, a few at sugar (Parry, *Entomologist*, 5: 394). Canterbury\*, one, 1904, five, 1906, two, 1907 (F. A. Small coll.). Ham Street, July 1934 (A. J. L. Bowes); two, Orlestone Woods, 1960 (C. R. Haxby). Brook; Hothfield; Little Chart (Scott (1936)). Chatham (P. B. Wacher); 1958 (P. Cue). Willesborough, one, July 12, 1954; Wye, one, August 15, 1953 (W. L. Rudland).

13. Broadwater Down, one at light (Townsend, *fide* E. D. Morgan).

14. Great Heron Wood, one, July 23, 1949 (C.-H.).

15. Hythe, four among reeds by the canal at dusk, July 27, 1929, with W. O. W. Edwards (Morley, 1931); W. Hythe, common, 1956, six, 1957 (P. Cue) Dymchurch, one, August 12, 1932, one, July 28, 1933 (A. M. Morley); 1947 or 1948 (P. le Masurier); two, 1952 (Wakely, *Ent. Rec.*, 65: 43). Dungeness, at light, July 30, 1932 (A. M. Morley). Military Canal near Kenardington, one, August 1959 (M. Enfield).

16. Folkestone Town, at m.v., one, 1951, two, 1952, three, 1953, two, 1954, three, 1955, none, 1956, one, 1957, four, 1958, two, 1959, none, 1960-62; in 1951, one September 5, a late date (A. M. Morley).

VARIATION.—Of ab. *flava* Haworth (= *stramineola* Doubleday), a very distinctive yellow form, so frequent in many parts of the range of this species in England, it is remarkable that the only known occurrence in Kent is of one taken by D. G. Marsh, at m.v., at Ickham (div. 4), July 18, 1961 (C.-H.).

FIRST RECORD, 1858: Deal neighbourhood (Baldwin, *Ent. week. Int.*, 4: 133).

#### **E. lurideola** Zinck.: Common Footman.

Native. Woods, gardens, marshes, etc.; foodplant unknown. Found in all divisions; generally fairly common. Rather scarce in 1; few records for 2, 15. "Getting scarce" (V.C.H. (1908)).

Obs.—G. A. N. Davis states that at Holt Wood, Aylesford (div. 11), it is "commoner than *L. complana*". At Ham Street, July 14, 1934, twenty noted at light (A. M. Morley); many at m.v., 1946, 1951 (C.-H.).

The feral larva has been noted on three occasions:—Broad Oak (div. 3), one, full-grown, in my garden at sugar, on a lichen-covered apple trunk, July 3, which produced a ♀, July 23, 1946 (C.-H.); Margate (div. 9), one taken June 17, from which an imago was reared, July 6, 1951 (W. D. Bowden); Farningham Wood (div. 1), one, nearly full-grown, May 22, imago reared June 22, 1957 (A. A. Allen).

1. Recent records for this division are:—Dartford, 1952 (B. K. West). West Wickham, one, August 12, 1953 (E. Trundell); ♀, at house light, August 1962 (C.-H.). Orpington, one, 1955 (L. W. Siggs). Lee, one, 1961 (C. G. Bruce).

2. Gravesend district (H. C. Huggins).

15. Dungeness, ♂ at light, ♀ at sugar, both July 26, 1935 (A. M. Morley); ♀ at m.v., July 25, 1952 (C.-H.); July 7, 1959 (C. R. Haxby). Greatstone, "fairly common at light", August 1960 (D. Youngs).

FIRST RECORD, 1859: Near Deal (Harding, *Ent. week. Int.*, 6: 140).

**E. complana** L.: Scarce Footman.

Resident, perhaps native. Woods, heaths, chalk downs, etc. [on *Lotus corniculatus*.] "Scarcer than formerly" (V.C.H. (1908)).

1. Dartford Heath (Jenner, *Week. Ent.*, **2**: 197); 1867 (Wormald, *Ent. Ann.*, 1868: 113); common (B. K. West); larva swept from heather, June 6, 1959 (R. G. Chatelain). Abbey Wood, one, August 30, 1862 (Fenn, *Diary*). Sydenham (Sellon, *Ent. Rec.*, **2**: 164). St. Paul's Cray (Carr, *Entomologist*, **33**: 46). Bexley dist., rare; Bostall Heath; Plumstead Common; Pauls Cray Common; Blackheath; Chislehurst (*Wool. Surv.* (1909)). Chislehurst, three, August 4-6, 1909; one, August 18, 1910; not seen since (S. F. P. Blyth). West Wickham, at sugar, 1926, 1929 (S. Wakely); one, August 12, 1953 (E. Trundell). Belvedere, 1954 (C. Hards, *fide* A. J. Showler). Farningham Wood, June 26, 1959 (R. G. Chatelain).

2. Between Kingsferry and Chetney Marshes, seven fresh specimens including a pair *in cop.*, June 26, 1949 (C.-H.).

3. Canterbury, a series at sugar (Parry, *Entomologist*, **5**: 394); *complana* exhibited by A. U. Battley at North London Natural History Soc., September 29, 1896 (*Ent. Rec.*, **8**: 224). Blean (V.C.H. (1908)); larva, imago reared July 19, 1924 (H. G. Gomm, *Diary*). Bossenden Wood, 1927, larva on oak stump (H. C. Huggins). Whitstable (P. F. Harris). Den Grove, July 14, 1939; Broad Oak, July 27, 1946, July 31, 1948 (C.-H.).

Near Deal\* (Harding, *Ent. week. Int.*, **1**: 163, **6**: 140) (Baldwin, *op. cit.*, **4**: 133). Deal, a few along dyke sides (Fenn, *Ent. Rec.*, **1**: 204).

5. Westerham (R. C. Edwards).

6. Greenhithe\* (Farn MS.). Cuxton\* (Tutt, *Ent. Rec.*, **4**: 249, 275). Eynsford, one, July 4, 1934 (Kidner, *Diary*). Fawkham (E. J. Hare).

6a. Darenth Wood (see *First Record*). Chattenden Roughs, one, July 12, 1857 (Chaney (1884-87)).

7. Westwell, July 21, 1934, August 4, 1945, July 19, 20, 22, 23, 24, 1946 (G. V. Bull, *Diary*). Boxley, 1953 (A. H. Harbottle).

8. Many records for this division, particularly for the coastal areas. The following are among the more interesting:—Dover, a larva, 1857, imago reared (Turner, *Ent. week. Int.*, **3**: 13). Dover Cliffs, larva, May 1, imago emerged July 5, 1932, larva, May 23, imago emerged July 6, 1934 (J. H. B. Lowe). Dover district, "larvae may be found in company with those of *irrorella*" (E. & Y. (1949)). Folkestone.—July 24-August 1, 1858 (H. Tompkins MS.); "Not uncommon in Warren; July. Larvae on *Lotus corniculatus*; May" (Knaggs (1870)); on paths leading to the Warren, two larvae, April 30, two larvae, May 20, 1932, they were fed on faded leaves of *L. corniculatus*, and the imagines emerged July 5-August 19; on paths leading to the Warren, a larva, April 4, 1948, imagines numerous, 1935, about 30 imagines at night, June 30, 1936 (A. M. Morley). Reinden Wood, several, July 27, 1948 (A. M. Morley). Chilham, not uncommon, by beating hawthorn bushes on the downs, July 23, 1936 (A. J. L. Bowes). Brook (C. A. W. Duffield).

9. Quex Park, July 18, 1932 (H. G. Gomm, *Diary*).

11. Aylesford (G. A. N. Davis). Hoads Wood (P. Cue).

12. Ham Street.—Is of regular occurrence, and usually fairly numerous at light. Occasionally abundant, as in 1934, when A. M. Morley (*in litt.*) wrote that he and three others counted 70 at dusk and light, July 20; and on July 22, when A. J. L. Bowes (*Diary*) noted that "it almost entirely replaces *lurideola*", adding that it "swarmed at car lights, July 22, 1934". Very common at m.v., August 15-20, 1960 (C. R. Haxby).

and J. Briggs). Warehorn, July 17, 1937 (Bull *Diary*). Willesborough, one, 1954, eight, 1955, none, 1956; Wye, nine, 1953, nine, 1954, five, 1955, two, 1956 (W. L. Rudland). Ashford Town (P. Cue).

13. Bedgebury, July 10, 1937 (Bull, *Diary*). Tunbridge Wells, imago in the town; larva found on Tunbridge Wells Common (Morgan, *Lepidoptera of Tunbridge Wells MS.*).

14. Sandhurst, July 17, 1932, August 6, 1951; Benenden, July 13, 1937, August 4, 17, 1939, August 5, 1946 (Bull, *Diary*). Hawkhurst, 1952 (B. G. Chatfield).

15. Dymchurch, 1902 (Browne, *Entomologist*, 35: 269). Dungeness, ♀, at m.v., August 3, 1951 (C.-H.).

16. Folkestone Town, at m.v., five, 1953, seven, 1954, one, 1956, one, 1957, one, 1961; none, 1951-52, 1955, 1958-60 (A. M. Morley).

VARIATION.—Tutt (*Ent. Rec.*, 13: 359; *Br. Moths*, 68) states that "one finds, as a rare aberration, occasional specimens of *L. complana* in Kent, with the superficial appearance of *sericea* [*E. sericea* Gregson] very strongly developed".

FIRST (PUBLISHED) RECORD, 1829: *Lithosia depressa* Stephens, one "taken at Darenth-wood about ten years since" (i.e., c.1819) (Stephens, *Haust.*, 2: 96).

#### **E. pygmaeola** Doubl. (*lutarella* auctt., non L.): Pigmy Footman.

Native. Coastal sandhills; foodplant unknown. Local.

Note: The larva (including that of s.sp. *palifrons* Zell.) does not yet appear to have been found in Britain.

4. Distributed from Deal to Sandwich Bay, occurring mainly near the shore, and apparently nowhere ranging inland for more than about a mile. Mostly noted at light, or at rest at night on grass stems or at marram; also, occasionally at sugar.

First discovered by H. J. Harding, at Deal, c. 1842 (cf. Harding, *Zoologist*, 2547); and subsequently recorded as fairly plentiful by many observers during the 19th century. Known as the "Deal Footman" (1907, South, *Moths Br. Isles*, 185). In 1898, according to Conquest (*Entomologist*, 32: 21), it was still fairly abundant and occurred over a large area of sandhills. However, construction of the golf-course about the turn of the century on the site of its habitat, evidently caused much concern for both this and other local specialities, and a contemporary note by Webb (1899) stated that "it is now in some danger of being exterminated". Since then though, it seems, the resulting golf course "rough" may have helped to some extent to conserve it.

V.C.H. (1908) has: "Deal, formerly abundant; getting scarcer". Perhaps a true prophecy, since there appear to be few references to its occurrence during the period that followed to 1930. P. A. Cardew (*Diary*) took it at Deal, July 24, 1908; and two at Sandwich, July 19, 1909, "on the ground near the hotel". Metcalf (*Entomologist*, 47: 244) records that he found numbers at Deal in 1914; and H. G. Gomm (*Diary*) mentions finding one on St. George's golf course, July 25, 1923.

A. M. Morley (*in litt.*) writes that in 1931, he and Proudfoot found five at night on August 10, at the Deal end of the sandhills; and in 1933, with J. H. B. Lowe, he noted on July 16, about 100 at dusk and at light, at Sandwich Bay. Noted by many observers since, e.g., August 20, 1936, in fresh condition; August 16, 1939 (A. J. L. Bowes); at Sandwich Bay; July

27, 1939; July 25, 1946; about 20 in fresh condition, including several *in cop.*, July 2, 1949 (C.-H.).

VARIATION.—The records show that *pygmaeola* is occasionally subject to extreme variation, particularly regarding colour of forewings. Thus, Barrett (*Br. Lep.*, 2: 217) mentions (a) one of a "pure silvery-white"; (b) one "entirely of a dark smoky-grey, approaching to slate-colour"; and another (c) "entirely grey". Tutt (*Ent. Rec.*, 6: 220) gives the colour range as from bright golden-yellow to almost black; and adds (*Br. Moths*, 70) that occasionally dark forms occur with a pale costa.

I have never seen any of the striking abs. mentioned above in the many collections that I have examined, and would be interested to know if they still exist, as they must, I consider, be pretty rare. One that I have, a ♂, taken July 27, 1946, has grey hindwings, darker in the costal area, and greyish forewings (C.-H.).

**Ssp. *pallifrons* Zell.**

Resident. Shingle beach; foodplant unknown. Very local.

15. So far as is known, the distribution of *pallifrons* in Britain is confined to Dungeness and its immediate vicinity, where it appears its range does not exceed some two miles in length. It occurs mainly between the lighthouse and the level-crossing, about the Long Pond, and has also been seen at the Open Pits. The records do not, however, show that the distribution extends as far north as Lydd-on-Sea coastguard station, nor west to reach the Hope and Anchor, though it is quite likely that it does so.

First noticed by H. B. D. Kettlewell on August 5, 1931, who records that he took two ♂♂, at his car lights at the level-crossing (cf. Kettlewell, *Ent. Rec.*, 44: 8-9). Observed fairly regularly since, and is sometimes not uncommon, particularly at light:—August 6, 7, 1935, "I have seen it coming freely to light both at the level-crossing and at the pits, and out on the shingle half-way to the pits" (A. J. L. Bowes). On August 3, 1951, I saw it in abundance on the rough ground between the Pilot Inn and the old railway to the lighthouse; some were at rest on grass, but the majority came to my roving Coleman lamp (C.-H.). About 100 on P. Cue's sheet, in 1955 (A. M. Morley). Thirty, at light, July 27, 1957 (R. F. Bretherton). One, August 18, 1958 (E. C. Pelham-Clinton). July 6, 1959, July 30, 1960 (de Worms, *Entomologist*, 93: 177, 94: 162). Two, at rest on *Silene otites*, July 22, 1960 (R. G. Chatelain).

VARIATION.—Broadly speaking, the form differs from typical *pygmaeola* by its larger size, and pale yellow (not pale straw) forewing. Seitz (Pal. Bomb. and Sphinges, 68) says that, compared with *pallifrons*, *pygmaeola* is "perhaps a separate species"; and Draudt (in Seitz, Suppl. Pal. Bomb. and Sph., 68) writing some thirty years later, emphasised this by saying that they were probably specifically distinct. According to Pierce and Beirne (Genita of Br. Rhop. and Larger Moths, 56), however, there are no differences in the genitalia.

Morley (*Trans. Folkestone nat. Hist. Soc.*, 1958-59: 9) states that on an average, specimens have become smaller since the original pair were taken at Dungeness, and tentatively suggests that the race there may represent a relatively recent immigration from the Continent, and a rather rapid change to something like the type, though yellower and with less grey shading on the forewings. These observations would have been

of greater value, however, had they been accompanied by detailed comparisons of a more precise nature, based on material taken over the years.

In my series of twenty-four *pallifrons*, all taken in 1951, several examples are very similar in appearance to typical *pygmaeola*. In general, however, the specimens are larger and of a deeper yellow, the al. expanse of the largest, a ♂, measuring just over 32 mm. Six, all ♂♂, are of a deep golden-yellow (C.-H.).

FIRST (PUBLISHED) RECORD, 1847: *Lithosia pygmaeola*. "This small species, which appears to be new, has been taken on the coast of Kent among rushes" (Doubleday, *Zoologist*, 1914).

#### **E. caniola** Hübn.: Hoary Footman.

Perhaps resident, though apparently now extinct<sup>1</sup>. Shingle beach; foodplant unrecorded.

15. Romney Marsh<sup>2</sup>.—Between 1866 and 1871, "while hunting for these larvae [*Lasiocampa trifolii*], Mr. Mitford's son found smaller caterpillars, which produced *Lithosia caniola*" (Bond, *Proc. ent. Soc. Lond.*, 1871: xxxix). In Meldolla coll. are three labelled "Romney Marsh, 1895" (Woodforde, *Entomologist*, 54: 12). In Br. Mus., S. Kensington, are three *caniola* labelled "Romney Marsh, S. Webb, 16.2.96" (C.-H.). "In May, the larvae of *Lithosia caniola* have been found commonly on Romney Marsh, on the low plants growing on the shingle just above high-water mark" (1901, Tutt, *Practical Hints*, 1: 35).

FIRST (PUBLISHED) RECORD, 1871: Bond, *Proc. ent. Soc. Lond.*, 1871: xxxix.

<sup>1</sup>It is interesting to note that in 1939, a ♂ (now in my coll.) was taken by the late Dr. G. V. Bull on July 23, on Rye Golf Course, just over the Kent-Sussex border (C.-H.).

<sup>2</sup>Possibly some of the *caniola* so recorded may have occurred just in Sussex. In R.C.K., are five small specimens, labelled "Rye, Sussex, R. H. Mitford"; and Barrett (*Br. Lep.*, 2: 221) has "near Rye, Sussex; and at Romney Marsh, Kent".

#### **E. sororcula** Hufn.: Orange Footman.

Native. Woods; foodplant unrecorded. Rather scarce; much more plentiful some years. Apparently extinct in N.W. Kent.

1. Birch Wood (Stephens, *Hast.*, 2: 94). West Wickham, one, May 1859 (Allchin, *Ent. week. Int.*, 7: 188). Joydens Wood; Birch Wood (C. Fenn, in *Wool. Surv.* (1909)). Bromley (H. Alderson, in *Wool. Surv.* (1909)).

3. Thornden Wood, one, June 4, 1902 (J. P. Barrett coll.). Pine Wood, one, June 2, 1904 (J. P. Barrett coll.); c. 1946 (J. A. Parry). Blean (V.C.H. (1908)). Sturry Woods, several, 1913 (Spiller, *Entomologist*, 46: 318). Den Grove, one, 1938 (C.-H.).

6. Birling, one, 1905 (H. C. Huggins).

6a. Swanscombe Wood, twenty-four, 1848 (Hodgekinson, *Zoologist*, 2328). Greenhithe\*, one, May 23, 1859 (Fenn, *Diary*). Darenth Wood, 1856, 1858-59 (Harding, *Ent. week. Int.*, 1: 76, 4: 84, 6: 75); one, May 30, 1863 (Fenn, *Diary*) (W. West, in *Wool. Surv.* (1909)). Chattenden, one, June 12, 1884 (Fenn, *Diary*); not uncommon (Chaney (1884-87)); 1899 (Russell James, *Ent. Rec.*, 12: 102); 1901-10 (H. C. Huggins).

7. Belmont, 1926-27 (H. C. Huggins). Westwell, June 2, 1923 (Bull, *Diary*) (Scott (1936)).

8. Chilham Downs, one, June 10, 1922 (Gomm, *Diary*); one, May 22, 1938 (C.-H.). Sole Street, June 8, 1935 (J. H. B. Lowe). Brook; Crundale (Scott (1936)). Barham, one, taken by B. Embry (A. M. Morley). Dover district, "widespread, not uncommon" (E. & Y. (1949)). West Wood, ♂, beaten out of spruce, June 19, 1950 (A. M. Morley); one, May 13, 1961 (D. G. Marsh).

11. Tonbridge (Morris, *Br. Moths*, 1: 50). Hoads Wood (Scott (1936)); 1955, 1956 (W. L. Rudland). Aylesford (G. A. N. Davis).

12. Ham Street.—One, May 31, 1932, one, May 26, 1933, one, May 22, thirty at light, June 1, 1934, one, May 24, 1936, one, May 29, 1946, one larva, September 9, 1946 (A. M. Morley); larvae, August 5, 1934 (de Worms, *Entomologist*, 68: 103); common at light, June 1, 1935 (A. J. L. Bowes); May 12, 1936, June 11, July 3, 1937 (Bull, *Diary*); about twenty rather worn ♂♂, at light, June 6, one very worn, June 11, 1938, one, May 25, 1951, one at m.v., May 31, 1958; all in Long Rope (C.-H.); two, 1960 (M. Singleton & D. Youngs). Kingsnorth (Scott (1936)). Chartham, one, 1952 (P. B. Wacher). Wye, eight, May 26-June 11, 1953, twelve, May 25-June 29, 1954, not seen 1955-56; Willesborough, one, May 27, 1954, not seen 1955-56 (W. L. Rudland).

13. Tunbridge Wells, one, 1857 (Andrews, *Ent. week. Int.*, 2: 77); May 13, 1943 (Morgan, *Lepidoptera of Tunbridge Wells MS.*). Pembury dist. (Cox, *Entomologist*, 4 (61), ii). Southborough (M. M. Phipps, in Knipe (1916)).

16. Folkestone Town, one, June 14, 1952, one, June 28, 1953, one, June 1956 (A. M. Morley).

**VARIATION.**—Howard (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1949-50: 10) exhibited an ab. taken by A. G. Peyton, June 1, 1934, near Ashford [Ham Street], and which was described as "dull brown in colour instead of the usual orange".

FIRST RECORD, 1829: Stephens, *loc. cit.*

#### **Pelosia muscerda** Hufn.: Dotted Footman.

Resident, perhaps extinct. Fens, marshes; foodplant unknown.

Note.—Although specimens were frequently labelled "Deal", "Eastry", "E. Kent", or just "Kent", in order to disguise the true locality, there is no evidence (excepting the single record for 15) that the species was ever found anywhere in Kent other than at Ham Fen.

4. Near Deal [Ham Fen] (see First Record). Ham Fen.—A few taken by H. Vaughan, 1891 (Fenn, *Diary*, 11.xii.1891); two fresh specimens, "by mothing along ditchside", August 8, 1892, one fresh specimen, August 17, 1892 (Fenn, *Diary*; *idem*, *Ent. Rec.*, 3: 285; *idem*, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1892: 48); one, "Eastry, Kent, 1903", one, "Kent, 1907", both in Meldola coll. (Woodforde, *Entomologist*, 54: 12); I have nine from E. D. Bostock coll., labelled "Kent, 6.07, Lister", and presumably taken by W. K. Lister, who resided at Eastry (C.-H.). In R.C.K., are several of Lister's specimens labelled E. Kent, 1905, 1907; in Goodwin coll., are seventeen specimens from "East Kent", including fourteen by T. Blest and E. Goodwin, August 1907, and three, bred E. Goodwin, August 1908; Blest informed me that his and Goodwin's *muscerda* came from Ham Fen; W. A. Cope told me he saw *muscerda* in numbers at Ham Fen in 1908 and 1909, and showed me about twelve specimens in his coll. from there so

dated, some of which he had bred from ova (C.-H.). Five, labelled "Eastry Kent", followed by the date, three on July 30, 1910, two on July 25, 1911; all from an old collection (G. H. Youden).

15. Appledore, on the marsh, July 1898 (Heitland, *Entomologist*, 31: 222).

FIRST RECORD, 1887: "Dykes near Deal" (Webb, *Dover, Deal and District Descriptive Pictorial*, 9).

**Atolmis rubricollis** L.: Red-necked Footman.

Resident, perhaps native. Woods, etc. [on *Pleurococcus naegelii* on oak, fir, beech]. Uncertain in appearance; usually scarce. Apparently extinct in N.W. Kent.

1. Near West Wickham (Simson, *Ent. week. Int.*, 1: 116). West Wickham, ♀, June 8, 1860 (H. Tompkins MS.); bred 1861, from "larva feeding on oak" (Huckett, *Ent. week. Int.*, 10: 51—the record does not make it clear whether this or Darenth Wood is intended (C.-H.)); two larvae, August 24, 1861 (Fenn, *Diary*). Near Lewisham [West Wickham], "larvae common on fir" (Fenn, *Ent. week. Int.*, 10: 195), Petts Wood, beat two larvae from oak, August 31, 1861 (Fenn, *Diary*). Shooters Hill (W. West, in *Wool. Surv.* (1909)).

3. Canterbury\* (Morris, *Br. Moths*, 1: 54). Sturry, June 10, 1914 (H. G. Gomm, *Diary*).

4. Ickham, one, June 28, 1957; one, July 3, 1958 (D. G. Marsh).

6a. Darenth Wood (Stephens, *Haust.*, 2: 198); two, June 21, 1862 (Fenn, *Diary*).

7. Wigmore, one, on larch trunk, June 1854 (Chaney (1884-87)). In Maidstone Mus. are:—One, "Boxley, E. Bartlett" [c. 1890]; one, "Boxley Hill, 18.vi.1917, H. Elgar" (C.-H.). Hollingbourne, not uncommon in heat-wave year of 1921, from May 29-June 22 (H. C. Huggins). Westwell, three larvae resting or crawling on branches of beech, September 18, 1932, from which an imago was reared June 10, 1933 (A. M. Morley); noted annually 1945-53, but altogether only a few (E. Scott, *personal communication*, 19.xii.1954); one, July 1, 1957 (G. H. Youden).

8. Martin, swarming in a pine wood, July 1, 1856 (Harding, *Ent. week. Int.*, 1: 116). Deal.—G. H. Youden has four old undated specimens labelled "Deal", given to him by H. D. Stockwell, and which he says probably came from S. Webb coll. (C.-H.). Shepherdswell (V.C.H. (1908)); (W. E. Busbridge). Near Whitfield, scarce (E. & Y. (1949)). Atchester Wood, near Elham, one, June 15, 1930; Dover, three at m.v. trap in garden, June 21, 1951, the only occasion here (G. H. Youden). Elham (W. E. Busbridge). Reinden Wood (Knaggs (1870)). Bridge, c. 1946 (R. Gorner). Wye (Scott (1936)); (C. A. W. Duffield).

9. St. Peters, one, at m.v., June 30, 1956 (W. D. Bowden).

11. Holt Wood, Aylesford, one at m.v., 1953 (G. A. N. Davis). Maidstone Town, one, July 16, 1955 (E. Philp).

12. Ham Street.—At light, June 18, 1934, June 30, 1935 (A. J. L. Bowes); one, at light, Long Rope, July 2, 1946; ♀, June 13, 1947, beaten out of oak bush in Burnt Oak; ♀, June 6, 1948, beaten out of sloe bushes, in Long Rope (C.-H.); June 11, 1937 (Bull, *Diary*); one, July 4, 1938 (A. H. Lanfear); one, June 30, 1956 (W. L. Rudland); one, 1957 (P. Cue).

16. Folkestone, one, June 16, 1951, taken by A. G. Riddell (Morley, *Trans. Folkestone nat. Hist. Soc.*, 1950-52: 11).

FIRST RECORD, 1829: Not uncommon in the lane leading into Darenth Wood from the village; and occasionally found in other parts of the wood" (Stephens, *loc. cit.*).

**Celama trituberculana** Bosc (*centonalis* Hübn.): Scarce Black Arches.

Resident. Coastal sandhills, etc.; foodplant unknown. Mainly (if not wholly) maritime in distribution. Very local.

[2. Sittingbourne, a few specimens (Wigan, *Entomologist*, 7: 205). Faversham, "has been taken at Faversham" (Chaney (1884-87)).]

4. Deal.—One taken by Mr. Dow, July 1858 (see *First Record*). Appeared again there in 1878 (Tugwell, *Young Nat.*, 9: 54), in a very restricted locality near Sandown Castle, of which W. H. Tugwell wrote in a note to Charles Fenn (Fenn, *Diary*, 24.vii.1892): "The old spot where I discovered it was a small hillock immediately behind the iron target on sandhills in long grass and little bushes of Sea Buckthorn. If you take the target as one angle, the old tumbledown shed on the left hand just beyond on left, and sandy parlour as extreme limit, *centonalis* is, or was, at home there. I rarely did much until 10 p.m. I have netted it on the wing but rarely, it is rather by close search round the small bushes of Sea Buckthorn where they go for shelter; you may even see them scuttling up and down the stems, grass, etc., on flighty nights or more generally sitting quietly often *in cop.* after 11 p.m." Thereafter the moth was taken in numbers annually by various collectors, at least until 1882<sup>1</sup>, in which year on July 18, Tugwell (*Young Nat.*, 4: 81) recorded that, accompanied by R. Adkin, he noted in an hour, nineteen examples, including three pairs in cop., "by closely inspecting the grass stems and stunted bushes of *Hippophae rhamnoides*".

I have a number from Deal from E. D. Bostock coll., that were bred by Howard Vaughan in 1882, and E. Sabine in 1892 (C.-H.); Webb (1891) has "Deal sandhills, 1889; and in R.C.K. is one labelled "Deal Sandhills, 1895". By 1893, however, it had evidently very much decreased at Deal<sup>2</sup>, and one taken by G. H. Conquest (*Entomologist*, 32: 21), July 24, 1898, appears to have been the last to have been seen there.

8. Langdon Hole (Webb (1891), 7). Folkestone, *centonalis*, a "species new to Folkestone recorded by Mr. Austen in July" (1892) (*Proc. Folkestone nat. Hist. Soc.*, 1892: 26).

12. Ham Street. ♂, at light, at south-east corner of Long Rope, July 24, 1955 (Haggett, *Ent. Gaz.*, 8: 78).

15. Littlestone, one taken, c. 1910 (F. J. Hanbury, *fide* H. M. Edelsten). Lydd-on-Sea, one, June 28; one, June 29, 1957—both at m.v. (Edwards & Wakely, *Ent. Rec.*, 70: 93; Wakely, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1957: 14).

16. Folkestone Town, ♂, ab. *atomosa* Brem., at m.v., July 22, 1956 (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1956: 38).

VARIATION.—Very variable. My series of twenty-six Deal *trituberculana* from the coll. of the late E. D. Bostock consists of twelve examples that may be classed as more or less typical, but show some degree of variation *inter se* regarding the extent of dark marking; three ab. *atomalis* Brem.; one ab. *candidalis* Stgr.; three ab. *fasciata* Rebel; and seven others transitional to *atomalis* (C.-H.).

In R.C.K. are the following ab.:—*alfkeni* Warnecke, numerous, Deal; *atomosa* Brem., several, Deal; *contrarialis* Heydermann, one, "Deal Sandhills, 1895."

FIRST RECORD, 1858: "My friend Mr. Dow, while in company with me at Deal, in July last, had the pleasure of capturing a fine specimen of *Nola Centonalis*" (Standish, *Ent. week. Int.*, 5: 74).

<sup>1</sup>Cf. *Ent. mon. Mag.*, 16: 206; *Entomologist*, 13: 42, 218; 14: 19, 215, 226; 15: 205.

<sup>2</sup>In 1893, Tutt (*Ent. Rec.*, 4: 76) said he believed it to be extinct at Deal owing to the destruction of the locality by conversion into a golf course.

#### ARCTIINAE

[**Coscinia striata** L. (**grammica** L.): Feathered Footman.

Doubtfully genuine.

13. In J. C. Stevens's catalogue of the sale on March 15, 1905, of the P. B. Mason coll., one finds at p. 21, under lot 272:—"Grammica, ♂, Tunbridge Wells, 21/7/52, Warner collection" (Anon., *Entomologist*, 38: 136).]

**C. cribaria** L. (**cibrium** L.) ssp. **arenaria** Lempke: Speckled Footman.

Immigrant<sup>1</sup>? Coastal sandhills. Very rare.

4. Sandwich, one, taken at night on St. George's Golf Course, in mid-July 1914, by J. W. Metcalf (Metcalf, *Entomologist*, 47: 245); one, taken at Sandwich Bay, on *Echium*, in July 1922, by a collector, name unknown, and shown fresh to H. C. Huggins (H. C. Huggins); ♂, taken at Sandwich Bay, at light, August 7, 1937, by A. J. L. Bowes (Bowes, *Entomologist*, 73: 25-26, fig. 3).

15. Dungeness, ♂, taken at light, July 21, 1934, by R. P. Demuth (Bowes, *loc. cit.*). [The statement in South (1961, *Moths Br. Isles*, edit. Edelsten, Fletcher and Collins, 2: 68) that *arenaria* has occurred more than once at Dungeness, is erroneous, and should be amended to accord with the above (D. S. Fletcher).]

VARIATION.—The Kent specimens are referable to ssp. *arenaria* Lempke, which has whitish forewings, is smaller, and much less heavily marked than the native Hants and Dorset race (ssp. *bivittata* South= *anglica* Ob.).

The Bowes specimen is almost spotless, and thus referable to ab. *trans. ad unicolor* Closs; the Metcalf and Demuth specimens are more noticeably spotted, and apparently conform to nymotypical *arenaria* (Bowes, *Entomologist*, 73: 27, 190). The Bowes and Metcalf specimens are in R.C.K. (C.-H.).

FIRST RECORD, 1914: Sandwich (Metcalf, *Entomologist*, 47: 245). Only recorded tentatively at the time, but later confirmed as this (cf. Bowes, *Entomologist*, 73: 190).

<sup>1</sup>On the continent, ssp. *arenaria* is found on the coastal sandhills of N. France, Belgium, and Holland. In Britain, so far as is known, *arenaria* has only occurred in Kent, to which it has been suggested the specimens were immigrants from abroad. A curious fact, however, and one that tends to dispel the immigration theory, is that all four examples were taken on or in the close vicinity of coastal sandhills, which are very restricted in Kent, and that three of them occurred at the same locality.

**Utetheisa pulchella** L.: Crimson-speckled Footman.

Immigrant. Stubble fields, waste places, gardens, etc.; foodplant unknown.

Altogether, there are records of some sixty *pulchella* for Kent, all of them imagines, and mostly from the east coast. 1874, 1886, 1892 and 1961.

were good years, and it seems probable that in at least the last three, the species survived to produce a generation in Kent.

Note: Tutt (1896, *Br. Moths*, 73) states that "on one occasion a fairly numerous brood was captured near Folkestone by two collectors who provided themselves with a long piece of rope which they dragged over the stubble-field, and thus disturbed the moths".

The earliest known occurrence of *pulchella* in Kent is that recorded by the Rev. F. W. Hope (in Stephens *Haust.*, 2: 198), who states that it was found at Gravesend (in 1828). Subsequently the moth was noted as follows:—(1853): Tenterden (div. 14) (Beale, *Zoologist*, 4130). 1862: St. Margaret's Bay (*West Proc. S. Lond. ent. nat. Hist. Soc.*, 1910-11: 103). 1869: Uphill, near Alkham, October 1 (Briggs, *Ent. mon. Mag.*, 6: 141). 1871: Dover, September 5 (White, *Entomologist*, 5: 412); Belvedere (div. 1) (Wood, *Ent. mon. Mag.*, 8: 111). 1873: Cobham (div. 6a), two, in Maidstone Mus. (C.-H.).

1874: Folkestone Warren, September, one taken, several others seen (Ullyett, *Ent. mon. Mag.*, 11: 210); Folkestone Warren, one, October 26 (Blackall, *Ent. mon. Mag.*, 11: 210); Alkham Valley, October 28 (Briggs, *Ent. mon. Mag.*, 11: 157); one in R.C.K., "Dover, 11.8.1874, G. Wood" (C.-H.). (1874): Deal (Stevens, *Proc. ent. Soc. Lond.*, 1874: xxiii)..

1876: In R.C.K., one, Folkestone, September (C.-H.); in Selwyn Image coll., ♀, "Kent, Folkestone. Oct. 1876, Austen, C. A. Briggs c.", ♀, "Kent, Folkestone, 13.10.76, Austen, C. A. Briggs c." (C.-H.); Deal, one, R. Harbour, Briggs coll. (Stevens, *Cat. P. B. Mason coll. Sale, March 14-15, 1905*, 21) (probably the one recorded by Harbour in *Entomologist*, 14: 18). [1876?]: Folkestone, "W. J. Austen, the professional, told me that one year he had 8 specimens in October, some taken by him and some brought to him by people who found them on rocks on the beach" (A. M. Morley, *in litt.*). 1880: Near Dover, September 12 (Austen, *Entomologist*, 13: 241); Folkestone, October 8 (Melville, *Entomologist*, 13: 281). c. 1880: Herne Bay, one taken by W. Bowes (A. J. L. Bowes coll., now in R.C.K.). 1885: Folkestone, September 7 (Chittenden, *Entomologist*, 18: 262).

1886: Near Folkestone, June 1 (Salwey, *Entomologist*, 19: 169); Diggles Folly, Dover, one, June (Tulloch, *Entomologist*, 60: 164); St. Margaret's Bay, one captured at rest "on a piece of seaweed", by Mr. Hanson of Plumstead, and exhibited at Haggerstone ent. Soc., November 1886 (Anderson, *Young Nat.*, 7: 247); Dover (Skinner, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1887: 74); Ramsgate (Wood, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1886: 18; idem, *Entomologist*, 19: 280); Ramsgate, taken by Mr. Buckmaster (Waterhouse, *Proc. ent. Soc. Lond.*, 1886: liii); Folkestone, August (Burr., *Ent. mon. Mag.*, 24: 132).

1887: W. A. Cope told me that while staying at Ramsgate in September 1887, he was shown two freshly caught *pulchella*, one of which had just been taken at ivy blossom (C.-H.); Poulton, one in R.C.K., "Taken at Poulton, nr. Dover, Oct. 19 '87, by Mr. Marsh" (C.-H.). 1890: One in R.C.K., Folkestone, June (C.-H.).

1892: St. Margaret's Bay, one, May 28, one, May 30 (Williams, *Entomologist*, 25: 167); Shorncliffe, May 29 (Partridge, *Ent. mon. Mag.*, 28: 191); Folkestone, May, specimens by Messrs. Hills and Gordon (*Proc. Folkestone nat. Hist. Soc.*, 1892: 26); Dungeness, June 1 (Postans, *Ent. Rec.*, 3: 131); Smeeth (div. 12), June 4 (le Grice, *Ent. Rec.*, 3: 159); Folkestone, August 17 (Austen, *Entomologist*, 25: 288; idem, *Ent. Rec.*, 3:

212); Folkestone neighbourhood, September 10 (Partridge, *Ent. mon. Mag.*, **28**: 265); Dover (Webb, *Entomologist*, **25**: 167); Folkestone district (Fellows, *Entomologist*, **25**: 322).

1897 or 1898: Folkestone Warren, one taken by Frank Fitness of Sanderstead, in 1897 or 1898, and given to a Folkestone collector named Harold Burgess (C.-H.). 1899: Folkestone, ♂ in my coll., labelled "Near Folkestone, Wm. Daws, 1899" (C.-H.). 1901: In R.C.K., one, Folkestone, W. J. Austen (C.-H.); Folkestone, two in Parris coll., taken by W. J. Austen (A. M. Morley). 1903: Folkestone Warren, one, June 30, taken by E. R. Banks (H. D. Stockwell, *Diary*). N.d.: Near Herne Bay; Margate; Walmer (V.C.H. (1908)). 1923: Tonbridge (div. 11) (Spence, *Entomologist*, **56**: 161). 1960: Dungeness, ♀, May 15 (Kennard, *Ent. Rec.*, **72**: 173). 1961: Lee (div. 1), one, August 30 (Wheeler-Holohan, *Entomologist*, **94**: 285) (*not "Wheeler-Holdhan"* as recorded (C.-H.)); Meopham (div. 6), one, at light, September 21 (Ellerton, *Ent. Gaz.*, **13**: 3); Dungeness, ♀, taken September 29 (P. Cue); Westerham (div. 5), ♀, taken October 1, another seen but missed, October 31, both flying in a garden in the sun (Edwards, *Ent. Rec.*, **74**: 9); West Hythe (div. 16), one, October 10 (Kettlewell, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1961: 41). [The anonymous report in *Proc. S. Lond. ent. nat. Hist. Soc.*, 1961: 24, of two, taken at Dungeness in October 1961, lacks confirmation.]

FIRST RECORD, 1829: Gravesend (F. W. Hope, in Stephens, *Haust.*, **2**: 198).

#### **Callimorpha jacobaeae** L.: Cinnabar.

Resident, perhaps reinforced by immigration<sup>1</sup>. Waste ground, fields, woods, gardens, downs, etc.; on *Senecio jacobaea*, *S. squalidus*, *S. vulgaris*, *S. erucifolius*, *Tussilago farfara*, Hop (lower leaves). Recorded from all divisions, but shows a decided preference for dry situations. "Locally abundant" (V.C.H. (1908)).

The following may represent a partial second generation: Willesborough, July 30, 1954, July 25, 1956 (W. L. Rudland); Folkestone, July 18, 1947 (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1947-48: 33); Dover, ♀, August 7, 1942 (Gardiner, *Entomologist*, **78**: 45).

Although often plentiful, particularly in the larval stage, the species is very irregular in its appearance. For example, Barrett (*Entomologist*, **38**: 214) stated that several were noted by him at Margate (div. 9) in June 1905, but that this was the first time he had seen it there in 25 summers. D. G. Marsh observes that at Ickham (div. 4), since he went to live there in 1954, he has noted it as remarkably scarce, and that it is only very occasionally seen. On the other hand, it is sometimes extraordinarily abundant; thus, Allchin (*Ent. week. Int.*, **7**: 188) recorded that in 1859, the imagines swarmed in Kent, and larvae were in thousands on ragwort.

Possibly the irregular appearance of this moth may to some extent be due to parasitical infestation. In this respect, I remember on one occasion when in a rough field at Birchington (div. 9) in July 1927, watching some larvae on the flower-head of a plant of *S. jacobaea*, which had several *Apanteles* flying about it, and actually witnessing one alight on the back of an individual and insert its ovipositor into the host (C.-H.).

The larva is most often seen on *S. jacobaea*. It is sometimes noted on *S. squalidus*, as at Dartford Marshes, c. 1950 (B. K. West), and many on

this at Charlton sandpit, July 12, 31, 1947 (J. F. Burton). Also found on *S. erucifolius*, at Faggs Wood, Ham Street (Scott, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1960: 87); on *S. vulgaris*, at Broad Oak, two small larvae, July 5, 1944 (C.-H.); on *T. farfara* at Dartford, c. 1950 (B. K. West); and "in considerable numbers" on the lower leaves of hop, in a hop-garden near Rochester, in August 1929 (Theobald, *Entomologist*, 63: 7).

VARIATION.—Seabrook (*Entomologist*, 62: 185) records one taken at Denge Wood, near Chartham (div. 8), 1929, having the ground colour yellow; and Trundell (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1951-52: 15, 43) exhibited a similar ab., taken near Plumstead Common (div. 1), June 27, 1951; both probably referable to ab. *flavescens* Th.-Mieg.

Russell (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1948-49: 13) exhibited one "with the red markings on the forewings replaced by pale pink", Shoreham, May 15, 1948; and in F. A. Small coll., is one with ground colour of hindwings darkened with smoke-grey, bred Canterbury, May 1918 (C.-H.).

In R.C.K. are the following ab.:—*gilleti* André, one, "Kent, 22 June 1922, R. H. Rattray", one, N. Kent, June 4, 1910, one, Greenhithe, bred May 1903; *confluens* Schultz, one, Westerham, bred 1923; *albescens* Cockayne, one, Chattenden, 1894, J. W. Tutt; *nigrana* Cabeau, one, N. Kent, June 1937; *expallescens* Cockayne, paratype ♀, Dover, 1904. Also, several pathological examples from Kent.

FIRST RECORD, 1829: "Very abundant in the larva state in Darenth-wood" (Stephens, *Haust.*, 2: 90).

<sup>1</sup>Classed as a migrant or suspected migrant by Williams *et al.* (1942).

### **Spilosoma lubricipeda L. (menthastris Esp.): White Ermine.**

Native. Gardens, waste places, etc.; on dandelion, dock, groundsel, plantain, rhubarb, sallow. Found in all divisions, but with seemingly a preference for urban districts. "Generally common" (V.C.H. (1908)).

The moth normally occurs from about mid-May throughout June to the beginning of July, but in certain years there appears to be a partial second generation, as for example in 1955 and 1956. In those years, W. L. Rudland's total counts were:—1955: Wye, May 25-July 21 (237), August 23-25 (3). 1956: Wye, May 10-July 23 (322), September 18 (1); Willesborough, May 16- July 13 (239), September 15 (1).

A. M. Morley kept a record of the sexes of a good many of the individuals at m.v. in his garden at Folkestone, from 1951-62, and it is surprising to find that the number of ♂♂ listed is 156 as against only 5 ♀♀. The same observer also notes that compared with *S. lutea*, both species fluctuate in numbers to a similar extent, and that for both, the bumper years were 1954 and 1956.

There are a fair number of records of the larva, but comparatively few include mention of foodplants. A. M. Morley found two larvae on sallow in his garden at Folkestone, August 27, 1948; and H. C. Huggins has noted them at various times in Kent, on dandelion, dock, groundsel, plantain, also, once on rhubarb in his garden at Chestnut Street, near Sittingbourne.

VARIATION.—Newman (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1919-20: 66) exhibited a "fine bred specimen" of ab. *walkeri* Curt., from Bexley; one exhibited by Trundell (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1959: 18) and which was taken by him at Shorne Ridgeway (div. 6a), may be transitional

to *walkeri*; likewise another taken by Hare, Pinden, 1957, and exhibited (Hare, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1957: 31, plt. 1, fig. 3).

Morley (*Entomologist*, **72**: 127) recorded a ♂ ab. *godarti* Ob. taken by him at Ham Street, June 25, 1938; and the same author states (*in litt.*) that he has a ♀ that is "almost spotless", bred from a pupa found in Folkestone, April 10, 1947, also a ♂ "with white antennae", taken Folkestone, June 23, 1956.

A. A. Allen has one taken at Blackheath, July 15, 1960, "with greatly reduced spotting much resembling *S. urticae*"; and Buckstone (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1922-23: 121) exhibited one from Broadstairs apparently very similar.

A ♂ in my coll., labelled "Greenwich Park, t. by J. F. Green, 1894", has the thorax, antennae, cilia and apical area of forewings smoke-grey (C.-H.).

The following abs. are in R.C.K.:—*paucipuncta* Fuchs, Bromley, bred 1901; *paucipuncta*, "with two large spots in hind wing", Sevenoaks, June 12, 1920; *unipuncta* Strand, one, "Folkestone, E. W. Brown, 6.92"; ab. having "large discal spot" on hindwing, Westcombe Park, June 1891; ab. with "row of dots in median area" of forewing, Folkestone, 1891; ab. having "dots at discoidal nervure" on forewing, Chattenden, 1892; ab. having "black line near inner margin" of forewing, N. Kent, bred 1918; *nigroundata* Nitsche, nineteen, "Bexley, bred vii.1912, L. W. Newman", one, Chattenden, bred 1892, ♀, Bexley, 1911; *postmagnipuncta* Cockayne, twenty, E. Kent, 1935, 1937, 1938, H. D. Smart; *transitoria* Ob. + *paucipuncta* Fuchs, one, Folkestone, 1892; *transitoria* Ob., "Folkestone, E. W. Brown, 6.92"; *godarti* Ob., nine, "Chattenden, 1891, part of one brood", one, "Bexley, Kent, taken June 1918 by P. Richards", six, bred N. Kent, 1919, L. W. Newman; *basistriata* Cockayne, holotype ♂, Greenhithe (*Ent. Rec.*, **63**: 265).

FIRST RECORD, 1861: Beckenham, May 18, 1861 (Fenn, *Diary*). This is the earliest positive reference to Kent that I have been able to trace, though the species was doubtless noticed in the county long before.

### **S. urticae** Esp.: Water Ermine.

Native. Marshes, fens; on *Galium*, *Senecio jacobaea*, Water Mint. "Very local" (V.C.H. (1908)).

1. Lewisham, one, "at rest in my own garden" (West, *Ent. Rec.*, **18**: 171). Bromley, one, 1900 (Alderson, in *Wool. Surv.* (1909)). Farnborough; West Wickham (*Bromley List, per Wool. Surv.* (1909)). Bexley dist. (L. W. Newman, in *Wool. Surv.* (1909)).

2. Deptford Marshes, May 30, 1843 or 1844 (Bedell, *Zoologist*, 1007). Sheerness dist. (Walker, *Ent. mon. Mag.*, **8**: 184; *idem, Ent. mon. Mag.*, **9**: 162). Gravesend (Button, *Entomologist*, **4**: 129). Greenhithe (Farn MS.). Royal Oak, Sheppeney, one, June 26, 1869 (J. J. Walker MS.). Sittingbourne, three, bred 1880, in Br. Mus., S. Kensington (C.-H.). Greenwich, 1880 (West, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1910-11: 103). Plumstead Marshes, larvae on low plants (West, *Ent. Rec.*, **18**: 171). Erith (Fenn, in *Wool. Surv.* (1909)). Dartford Marshes, four larvae taken by Auld in 1896 (Fenn, *Diary*). Luddenham Marshes, one (H. C. Huggins). Marshes of the Medway (de Worms, *Entomologist*, **72**: 241). Abbey Wood Marshes, one larva, September 15, 1951, emerged 1952 (J. F. Burton). Graveney, three, July 30, 1958 (D. G. Marsh).

3. Herne Bay, one, c. 1950 (D. G. Marsh). Broad Oak, ♀, at m.v. June 22, 1952 (C.-H.).

4. Deal, larvae, September 12-15, 1860 (Fenn, *Lepidoptera Data MS*); larva on *Galium*, August 30, 1888 (Fenn, *Diary*); "once so abundant in the Deal Marshes, is (now) very scarce indeed" (Webb, *S. East. Nat.*, 1903: 54). Ham Marshes, larvae, S. Webb (Fenn, *Diary*, 22.x.1884); ♀, June 17, 1950 (C.-H.). Westbere, on street lamps (A. G. Peyton, teste A. J. L. Bowes). Sarre, May 1934 (A. J. L. Bowes). Sandwich, two, June 24, 1955 (C.-H.). Ickham (D. G. Marsh). Worth, 1962 (T. W. Harman).

7. Westwell, two, July 3, 1953 (Scott, *Ent. Gaz.*, 5: 123; idem, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1953-54: 43).

8. Folkestone\* (Ulyett (1880)). Dover, ♂, in m.v. trap in garden, June 30, 1953 (G. H. Youden).

9. St. Peters, ♂, at light, c. 1936 (J. W. C. Hunt). Ramsgate, July 12, 1955 (W. D. Bowden).

11. Tonbridge, scarce (A. D. Reed, in Knipe (1916)) (Given (1946)). Hoads Wood, two, June 15, 1955 (W. L. Rudland).

12. Chartham, one, 1952 (P. B. Wacher). Ham Street.—♀, taken in Faggs Wood, June 13, 1952 (G. H. Youden); one at m.v., in Birchett Wood, June 24, 1953 (W. L. Rudland); two, June 4, 1950 (R. F. Bretherton); one, in the village, July 8, 1958 (de Worms, *Entomologist*, 92: 71). Brook, 1954 (C. A. W. Duffield, *fide* E. Scott). Wye, one, June 18, 1954, one, June 20, 1956; Willesborough, one, June 30, 1954, three, June 19-20, 1956 (W. L. Rudland).

14. Sandhurst, one, at light, June 12, 1933 (G. V. Bull). Hawkhurst, one, 1958 (A. W. Lawson).

15. Appledore (Heitland, *Entomologist*, 31: 221). Dungeness, June 11, 1932 (J. H. B. Lowe) (probably the one mentioned by de Worms in *Entomologist*, 66: 50); one, June 25, 1932 (G. V. Bull); one, at light, July 16, 1934, one at light, one on rushes, June 18, 1938 (A. M. Morley); one larva on ragwort on top of a high bank above a ditch, August 1939, by the bird sanctuary, imago reared (H. C. Huggins); one, July 28, 1951 (de Worms, teste A. M. Morley); one, May 31, 1952 (C.-H.); one, July 7, 1954, at m.v. (More and Ellison, teste A. M. Morley); one, July 28, 1956 (W. L. Rudland); two, June 30, 1954, one, June 3, 1956 (R. F. Bretherton); one, June 28, 1957 (T. G. Edwards); five larvae on Water Mint, feeding in full sunshine, in the Long Pond, August 1956, all five reared (H. C. Huggins). St. Mary-in-the-Marsh, one, July 29, 1948 (P. le Masurier). Dymchurch, four, at m.v., 1952 (Wakely, *Ent. Rec.*, 65: 43).

16. Military Canal at Hythe\* and Sandgate\*, larvae (S. Webb, teste Fenn, *Diary*, 22.x.1884).

VARIATION.—Barrett (*Br. Lep.*, 2: 290) records that "F. J. Hanbury has a specimen of a pure spotless white, reared from larvae obtained in Kent".

One bred from Dungeness larva, taken 1956, has "a dull light brown thorax" (H. C. Huggins).

FIRST RECORD, 1845: Deptford Marshes (Bedell, *Zoologist*, 1007).

#### **S. lutea** Hufn. (***lubricipeda*** auctt., *non* L.): Buff Ermine.

Native. Gardens, waste places, woods, etc.; on dock, dandelion, groundsel, garden lettuce, honeysuckle, sallow, "White Mullein", elder, birch, mulberry. Recorded from all divisions. "Generally common" (V.C.H. (1908)).

The species appears to be rather less plentiful than its congener *S. lubricipedata*, and on an average, emerges about a week or fortnight later. Occasionally, there is perhaps a partial second generation; thus, A. M. Morley records that at Folkestone, in 1958, he first noted it on June 3 and last on September 4, and in 1962, last on September 30, an exceptionally late date, but in that year the first appearance was not until July 26, which is very abnormal. An extraordinarily early appearance, is that of one (and which was worn too) found on a fence at Bickley (div. 1), by W. Rait-Smith, in 1925 on February 17 (Riley, *Entomologist*, **58**: 63).

The larva is found fairly frequently, and its chief natural pabulum is perhaps dock. A. M. Morley states that at Folkestone, September 4, 1955, he found two, full-fed, on dock, and adds that he usually finds it on this. The same observer records finding a half-grown larva there on White Mullein; several in his garden on sallow; one near Thurnham (div. 7), September 29, 1931, on elder; and adds that at Sandgate (div. 16), three larva and a cocoon were found on honeysuckle. Gillett (*Diary*) records that at Brasted Chart, he beat one from birch, from which the imago emerged March 26, 1913; A. J. L. Bowes noted them on lettuces in a garden at Herne Bay, 1933; and H. C. Huggins has found the larvae in Kent on dandelion, dock, groundsel, garden lettuce, and once at Gravesend on mulberry "ten feet from the ground".

VARIATION.—Huggins (*Entomologist*, **62**: 83) recorded a curious asymmetrical ♂ ab. taken at Cliftonville, having the right upperwing "more than half dull brown", with "the outer half of the wing, from the cilia . . . entirely covered with broad, wedge-shaped marking which tapered inwards towards the basal area".

Sperring (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1917-18: 50) exhibited specimens from Blackheath, "with the hindwings of the same dark colour as the forewings". The following ab. are in R.C.K.:—*denigrata* Schultz, Chattenden, 1905; *paupera* Hoffm., Lewisham, bred 1891; *semiunicolor* Vorbrot, Lewisham, bred, 1892; *fasciata* Dufrane, two, N. Kent, 1912, 1920; *brunnea* Cockayne, paratype, Bexley, bred 1901.

FIRST RECORD, 1861: Blackheath Park, June 4, 1861 (Fenn, *Diary*). This is the earliest positive reference to the species in Kent that I have been able to trace, though it must have been known in the county long before.

#### **Cycnia mendica** Clerck: Muslin Moth.

Native. Woods, downs, etc.; on *Clematis vitalba*, primrose. "Generally distributed but not abundant" (V.C.H. (1908)).

1. Near Woolwich (Jones, *Ent. week. Int.*, **10**: 187). Chislehurst (Tutt, *Ent. Rec.*, **1**: 64); not common (S. F. P. Blyth). Eltham (Tutt, *Ent. Rec.*, **5**: 185; Fenn, *Entomologist*, **23**: 236). Lee; Orpington; Halfway Street; Beckenham; Shooters Hill Road; Lewisham, one, 1880 (*Wool. Surv.* (1909)). Bexley (Carr, *Entomologist*, **33**: 47); many ♂♂, at m.v. trap, April 15-May 22, 1952 (A. Heselden). Sidcup, June 3, 1917, May 30, 1934, May 29, 1925, May 23, 1926, May 19, 1928, larva, August 1910, larva, July 2, 1923; Joydens Wood, June 1, 1914; New Eltham, May 9, 1923; St. Pauls Cray Common, May 22, 1920 (A. R. Kidner). Grove Park; Lewisham; on bombed sites, c. 1946 (D. F. Owen). Charlton, one, 1948 (J. F. Burton). Petts Wood, ♂, 1949, ♂, 1950, at light (E. Evans). Dartford, larva on *Clematis vitalba* (B. K. West). Plumstead, 1952 (A. J. Showler). West Wickham, ♀, May 20, 1953 (C.-H.). Hayes; Keston (de Worms, *Lond. Nat.*, 1954: 135). Black-

heath, ♀, in garden, c. 1950 (A. A. Allen).

2. Near Dartford\* (see *First Record*). Dartford district (B. K. West).
3. Blean Woods, ♀, May 14, 1866 (Fenn, *Diary*); ♀ ♀, May 24-25, 1931 (A. J. L. Bowes). Church Wood, ♀, June 6, 1924 (H. G. Gomm). Honey Wood, ♀ ♀, 1938 (C.-H.). Pine Wood (J. A. Parry).
4. Sandwich, dead ♀, on sandhills, June 8, 1958 (C.-H.). Ickham, several at m.v., 1954-61 (D. G. Marsh).
5. Chevening, ♂ ♂, at light, April 28-29, May 15, 19, 22, June 1, 1914 (Gillett, *Diary*). Knockholt, June 9, 1932 (Bull, *Diary*). Westerham (R. C. Edwards). Leaves Green, ♀, May 17, 1952; Biggin Hill, ♀, May 17, 1952 (C.-H.). Chelsfield, 1953 (A. M. Swain).
6. Greenhithe (Farn M.S.). Otford (Adkin, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1902: 50). Gravesend district.—Occurred particularly near Southfleet; near Nursted, a larva, on primrose, 1906 (H. C. Huggins). Cuxton, 1908 (Ovenden, *Ent. Rec.*, 21: 32). Ryarsh, ♀, c. 1925 (J. Fremlin). Pinden (E. J. Hare). Shoreham, 1951 (A. S. Wheeler). Hartlip, 1952 (A. M. Swain). Meopham, common, at m.v., 1959-61 (J. Ellerton).
- 6a. Darent Wood, 1859 (Harding, *Ent. week Int.*, 6: 75). Rochester district\* (Chaney (1884-87)). Cobham, May 21, 1912 (F. T. Grant); ♀, 1950 (J. F. D. Frazer).
7. Westwell; Long Beach Wood (Scott (1936)). Kings Wood (Scott (1950)). Boxley, 1953 (A. H. Harbottle).
8. Hawkinge, ♂, two ♀ ♀, bred [c. 1895] (J. W. Walton, teste A. M. Morley). Reinden Wood, 1929 (Morley) (1931)). Alkham; Ewell Minnis; Whitfield (E. & Y. (1949)). Elham Park Wood, ♀, June 9, 1924; Hadding Wood, ♀, May 21, 1933 (W. E. Busbridge, *Diary*). Dover (Gardiner, *Ent. Gaz.*, 10: 6). Bridge (R. Gorier). Stowting (C. A. W. Duffield), Crundale; Wye (Scott (1936)). Penny Pot Wood, c. 1947 (J. A. Parry). Chilham, June 10, 1951 (W. D. Bowden). Brook (Scott (1950)). Wye Downs, ♀, June 4, 1950 (R. F. Bretherton).
9. Broadstairs, ♀, 1947 (J. W. C. Hunt).
10. Brasted (R. M. Prideaux). Sevenoaks, 1919-20 (Gillett, *Entomologist*, 53: 23, 119) (F. D. Greenwood).
11. Shipbourne (P. A. & D. J. A. Buxton coll.). Wateringbury (W. A. Cope). Offham (W. E. Busbridge). Edenbridge, 1933-34 (F. D. Greenwood). Aylesford (G. A. N. Davis). Hoads Wood, ♀ (P. Cue). Sevenoaks Weald, one, 1960 (E. A. Sadler).
12. Ham Street, two ♂ ♂, at light, May 18, 1934; one, taken by W. Stickles, May 3, 1935 (A. M. Morley); Long Rope, ♀, June 1, 1950, ♂, at light, May 12, 1951 (C.-H.); 1959 (Scott, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1959: 76); one, May 6, 1960 (R. G. Chatelain). Kennington (Scott (1936)). Chartham, two, 1952 (P. B. Wacher). Wye, five, May 19-29, 1953, ten, April 30-May 29, 1954, seven, April 30-May 22, 1955, nine, April 25-May 18, 1956; Willesborough, eleven, May 10-June 4, 1954, eight, April 30-June 5, 1955, eleven, April 24-June 6, 1956 (W. L. Rudland). Ashford Town, May 9, 1954 (P. Cue). Ashford district, larvae, 1959-60 (M. Singleton).
13. Tunbridge Wells; Bidborough (Morgan, *Lepidoptera of Tunbridge Wells MS.*). Tunbridge Wells, ♀, 1951 (H. E. Hammond). Goudhurst, frequent (W. V. D. Bolt).
14. Tenterden (Stainton, *Man.*, 1: 148). Hawkhurst (B. G. Chatfield).
16. Folkestone.—♂ on a wall, on the edge of golf-course, April 18, 1934

(A. G. Riddell); sixteen, 1952, ten, 1953, four, 1954, none, 1955 (as was away), three, 1956, two, 1957, three, 1958, two, 1959, seven, 1960, three, 1961, four, 1962, all ♂♂, in m.v. trap in garden in the town; ♀ taken by R. W. Fawthrop in m.v. trap in the town, May 27, 1954 (A. M. Morley) (this is the only record of the ♀ at light to my knowledge (C.-H.)).

**VARIATION.**—The following abs. are in R.C.K.: *depuncta* Schultz, ♂, "E. Kent, bred 1901", ♀, Bexley, 1901, L. W. Newman; *albinotata* Cockayne, holotype ♂, Bexley, 1914, bred H. D. Smart; *substriata* Cockayne, paratype ♀, Belvedere, 1887, W. Marshall; *nigrociliata* Cockayne, holotype ♀, Lewisham, bred April 17, 1909, by J. W. Tutt.

Tutt (*Ent. Rec.*, 5: 185-186) records, that from ova from a ♀, taken at Eltham, by C. Fenn, 21 ♂♂ 22 ♀♀ were bred. The ♀♀ were about normal except for one "curiously blotched with dark grey on the left forewing". The ♂♂ "varied from specimens of the usual English type, to others of a dull pale yellowish-grey, and quite 50 per cent. diverged more or less from the usual blackish-grey form."

A. M. Morley states that of the four ♂♂ taken at Folkestone, 1962, "two were melanic, almost black when fresh instead of the usual brown."

The ♂ taken at Folkestone, in 1934, by A. G. Riddell, appears referable to ab. *rustica* Hubn., and according to the captor (*in litt.*) "approximates very closely in colouring", to fig. 1 on plt. 27 in South (1961, *Moths Br. Isles*, 2).

**FIRST RECORD**, 1828: "Marshy places near Dartford, Erith, etc." (Stephens, *Haust.*, 2: 78).

#### **Diacrisia sannio** L. (**russula** L.): Clouded Buff.

Native. Chalk downs, heaths, woodland clearings, etc.; foodplant unknown. Widespread and fairly numerous in S; rare or extinct in 1.

A partial second generation may occur very occasionally. Thus, Embry (*Entomologist*, 67: 259) records that in the Dover district in 1934, several ♂♂ in poor condition were seen, and two perfect ♀♀ taken, on August 27; Richardson (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1947-48: 35) exhibited "one wild 2nd brood from Kent."

1. Pauls Cray, two ♂♂, July 7, 1888 (Fenn, *Diary*) (Chislehurst (Fenn, in Buckle and Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1898: 58) probably refers); one, July 19, 1907 (S. F. P. Blyth). Bexley district (L. W. Newman, in *Wool. Surv.* (1909)). Keston (W. Barnes, in *Wool. Surv.* (1909)). Lewisham, one, May 3, 1946 (D. F. Owen).

2. Abbey Wood Marshes, one, May 2, 1946 (D. F. Owen).

3. Blean Wood, ♀, ♂, June 22, 1875, in Br. Mus., S. Kensington (C.-H.); one, June 23, 1928, one, July 5, 1929 (A. M. Morley); three, 1955 (C. A. Stace). Church Wood, very plentiful, June 21, 1921, ♂, June 24, 1922, four ♂♂, two ♀♀, June 30, 1923, two ♂♂, June 23, 1924 (H. G. Gomm, *Diary*). Mincing Wood, not uncommon (A. J. L. Bowes). Barton, Wood, one, 1938 (C.-H.).

6a. Chattenden (Chaney 1884-87)); c. 1905 (H. C. Huggins). [Chattenden] June 28, 1876, "in great numbers", including two ♀♀ taken (Shephard, *Entomologist*, 10: 47); larva, April 1880, "in the neighbourhood of Higham" (Porritt, *Entomologist*, 13: 163).

7. Ashford district\* (Jeffrey, *Ent. mon. Mag.*, 5: 223). Boxley (Reid, *S.E. Nat.*, 1904: 51). Westwell (Scott (1936)); several at sugar, June 22, 1953 (de Worms, *Ent. Rec.*, 65: 346). Kings Wood (Scott (1950)). Bluebell

Hill, a few, June 23, 1957 (E. Philp). Burham Down, "more frequent . . . than in former years" (Davis, *Bull. K. Fld. Cl.*, 1: 7). Boxley Downs, three ♂♂, 1959 (C. A. Stace).

8. Among comparatively recent records for this div. may be included the following:—Chilham Downs, ♂♂ fairly numerous, few ♀♀, 1935-39; Womenswold, 1952; Folkestone Warren, 1939, 1953, 1957, 1958 (C.-H.). Alkham, 1932, 1934 (J. H. B. Lowe). Reinden Wood, 1931; Ewell Minnis, many, June 27, 1931; Elmstead, 1938; Postling, 1930; Crundale, 1940; Barham Cross, in a clearing in a beech wood four ♂♂, one ♀, June 30, 1941; Folkestone (Middle Hill, Canterbury Hill, Dover Hill), 1928, 1929, 1931, 1932, 1936, 1937, 1939, 1942, 1943, 1945, 1947, 1949 (A. M. Morley). Penny Pot Wood, c. 1946 (J. A. Parry). Bridge, c. 1946 (R. Gorer). Brook, plentiful at m.v., July 4, 1951 (H. King).

10. Sevenoaks (W. E. Busbridge).

11. Near Wateringbury;\* Yalding (V.C.H. (1908)). Hoads Wood (P. Cue); one, June 23, 1956 (C.-H.); a colony, 1959 (M. Singleton).

12. Wye, three, June 21-22, 1954, one, June 22, 1955 (W. L. Rudland). Hothfield, ♂, July 1, 1960 (A. M. Morley). Ham Street (P. Cue).

13. Tunbridge Wells district (Cox, *Entomologist*, 4 (64), ii). Groombridge (*Bull. Proc. S. Lond. ent. nat. Hist. Soc.*, 1931-32: 59). Tunbridge Wells (Knipe (1916)); ♀, 1944 (H. E. Hammond).

16. Newington Quarry, 1949; Folkestone Town, one, July 15, 1951, one, June 29, 1954, one, June 17, 1957, one, June 23, 1960 (A. M. Morley).

**VARIATION.**—Tutt (*Ent. Rec.*, 4: 250) records that of a series of ♂♂ and ten ♀♀, taken in N. Kent, in 1893, the "markings on the hind wings of the males varied much, some being without the usual dark band on the outer margin, whilst others had it specially well-developed". "To a certain extent the same form of variation is found in the females, but the markings are not so obsolete as in some of the males".

Marchant (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1931-32: 90) exhibited a ♂ from Kent, "without the usual dark markings and marginal band on the hindwings"; and Newman (*Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1911: 14) exhibited two ♂♂, apparently similar to the latter, bred Folkestone, by S. G. Hills.

Morley (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1943-44: 18) exhibited *sannio* "with central spots on hindwings joined by a bar to base", Folkestone, 1943. This ab. is of fairly frequent occurrence in Kent, at least in my experience (C.-H.).

The following abs. are in R.C.K.:—♂♂ abs. *immarginata* Niepelt, one, Chattenden, 1893; *immaculata* Oberth., Chattenden, Wye; ab. with "discoidal spot absent", one, Folkestone; *moerens* Strand, Folkestone, H. W. Barker. ♀♀ abs. *moerens* Strand, one, Bexley, July 1904, L. W. Newman, one, E. Kent, June 1921, L. W. Newman.

A striking ♂ underside ab. taken by me at Womenswold, June 23, 1952, has the whole of the underside of the forewings black, except for a small triangular area of buff below the discoidal,  $\frac{2}{3}$  of costa from base pink and the normal pink cilia (C.-H.).

FIRST RECORD, 1858: Near Folkestone (Drury, *Ent. week. Int.*, 4: 103).

#### ***Phragmatobia fuliginosa* L.: Ruby Tiger.**

Native. Woods, marshes, wet meadows, grassy places, etc.; on bramble, sorrel, heather, *Lamium*.

Note: Second brood specimens are more numerous, and as large, if not larger, than those of the first generation. It is a curious fact, moreover, that moths of the second generation seem to be mainly if not wholly nocturnal by habit, whereas those of the spring brood are sun-loving, and have not to my knowledge been observed to fly at night (C.-H.).

1. West Wood near Eltham (Fenn, *Lep. Data MS.*, 14.i.1861). Brockley; Bexley district; Lewisham; Charlton; Keston (*Wool. Surv.* (1909)). Wilmington (L. T. Ford). Sidcup, larvae plentiful, October 1924, October 1925, several larvae, 1926, larvae fairly plentiful, 1927, larva, October 15, 1927, three larvae, November 3, 1929, larva, October 10, 1930 (A. R. Kidner). Petts Wood, annually, very common 1947 (E. Evans); 1953 (A. M. Swain). West Wickham, over thirty larvae in rough grass, October 19, 1947; odd imagines noted occasionally since in spring (C.-H.); 1951 (E. Trundell). Lee, 1949 (D. Lanktree). Hayes; Keston (de Worms, *Lond. Nat.*, 1953: 135). Dartford (B. K. West). Orpington, 1953 (L. W. Siggs); (R. G. Chatelain). Hayes Common, ♂, July 28, 1948; Footscray, several at rest on low herbage in riverside meadow, April 30, 1949 (J. F. Burton). Plumstead, 1951 (de Worms, *loc. cit.*); 1953, at m.v. (J. Green). Bexley, one, July 20, 1952 (A. Heselden). Blackheath, two, at m.v., 1959; commoner in 1960 (A. A. Allen). Bromley, three, 1961 (D. R. M. Long). Lee, common (C. G. Bruce).

2. Greenhithe\* (V.C.H. (1908)). Dartford (B. K. West). Port Victoria, one, April 17, 1949 (G. G. E. Scudder). Erith Marshes, larva (Hards, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 87).

3. Clowes Wood, larva on bramble, July 12, imago emerged, August 3, 1922 (H. G. Gomm, *Diary*). Broad Oak, one, 1947 (C.-H.). Blean Woods, c. 1946 (A. G. Maconochie). Herne Bay district, odd ones (D. G. Marsh). Whitstable district (P. F. Harris).

4. Marshside, one (A. J. L. Bowes). Westbere, one, August 3, 1946 (C.-H.). Ickham, plentiful, 1954-61 (D. G. Marsh). Sandwich, one, April 13, 1957 (E. Philp).

5. Chevening, 1858 (Stanhope, *Ent. week. Int.*, 4: 156). Westerham (R. C. Edwards).

6. Cuxton, 1874 (Tutt, *Ent. Rec.*, 16: 58). Northfleet (L. T. Ford). Birling (H. C. Huggins). Eynsford (Blair, *Proc. S. London. ent. nat. Hist. Soc.*, 1934-35: 33). Ryarsh, 1936 (J. Fremlin). Pinden district, common (E. J. Hare). Gravesend, ♀, May 1, 1947 (F. T. Grant). Fawkham Green, May 16, 1948 (G. G. E. Scudder). Otford, one, April 21, 1957 (C.-H.). Meopham, at m.v., July 26, 29, 1959, August 25, 1960, July 19, August 5, 1961 (J. Ellerton).

6a. Darent Wood (Stephens, *Haust.*, 2: 74). Swanscombe, May 5, 1947 (F. T. Grant).

7. Chestnut Street, one larva on sorrel, one larva on heather, July 1921 (H. C. Huggins). Westwell (Scott (1936)); one, August 8, 1955 (C.-H.); several, August 1959 (M. Enfield). Charing, c. 1945 (R. Gorier). Boxley, 1953 (A. H. Harbottle). Tunstall 1960 (J. J. Light).

8. Folkestone Warren (Knaggs (1870)); one at light, August 5, 1946 (R. Fairclough, teste A. M. Morley). [Dover], larva on *Lamium*, March 9, 1882 (Webb, *Young Nat.*, 4: 119). Langdon Hole, 1920 (E. & Y. (1949)), Stowting; Brook\* (C. A. W. Duffield). Wye\* (Scott (1936)). Barham, c. 1946 (A. G. Maconochie). Reinden Wood, eight bred 1927 (D. G. Marsh coll.). Folkestone, larva on downs, imago reared 1953 (C. A. Stace).

9. Margate, larvae, three imagines emerged 1915 (H. G. Gomm). Cliftonville, two, July 19-21, 1945, one, September 5, 1954 (W. D. Bowden);

one, August 4, 1950 (Bowden, *Entomologist*, **84**: 60).

10. Brasted (R. M. Prideaux). Sevenoaks, larva, September 1918 (Gillett, *Diary*); at light, 1948-50 (F. D. Greenwood); one, April 20, 1946, on wing by day, one July 23, 1947, one at light, July 25, 1948, two at light, August 5, 1948 (W. E. Busbridge, *Diary*).

11. Wateringbury; Yalding (V.C.H. (1908)). Shipbourne (P.A. & D. J. A. Buxton coll.). Hoads Wood (Scott (1936)); c. 1955 (P. Cue). Aylesford (G. A. N. Davis). Sevenoaks Weald, July 16, 21, 23, August 1, 1959 (E. A. Sadler).

12. Ham Street.—Cocoon on heather in Burnt Oak Wood, imago reared, c. 1950 (C.-H.); 1953 (R. Lovell, teste A. M. Morley); one, September 4, 1954 (W. L. Rudland); July 28, 1956, one in the village, September 21, 1957 (R. F. Bretherton); August 1960 (C. R. Haxby and J. Briggs). Charlham (P. B. Wacher). Wye, eight, July 30—August 12, 1953, five, August 15-23, 1954, six, July 28-August 10, 1956; Willesborough, two, September 8-9, 1953, one, August 28, 1954, six, July 22-August 15, 1955, eleven, July 24-August 17, 1956 (W. L. Rudland). Ashford, one, 1957; Brook, one, April 1959; Willesborough, August 1960 (M. Singleton).

13. Tunbridge Wells (Beeching, *Ent. Rec.*, **2**: 229); (Knipe (1916)); several, 1948 (H. E. Hammond); three, 1958 (L. R. Tesch, *fide* C. A. Stace). Southborough (Given (1946)).

14. Sandhurst (G. V. Bull). Hawkhurst, several (B. G. Chatfield). Tenterden (C. G. Orpin).

15. Dungeness, August 9, 1938 (A. J. L. Bowes); four at light, August 4, 1946 (de Worms, *Entomologist*, **80**: 81); one, August 3, 1951 (C.-H.); four at light, July 27, 1956 (R. F. Bretherton); July 1957 (E. Philp); a few, August 18, 1958 (E. C. Pelham-Clinton); 1959 (de Worms, *Entomologist*, **93**: 179) (C. R. Haxby) (A. L. Goodson). Greatstone, common, August 1960 (D. Youngs).

16. North Folkestone, two larvae, April 26, 1946, an imago reared (D. Smith, teste A. M. Morley). Folkestone Town, one very worn, July 28, two larvae, February 22, 1947; ♀, July 31, ♀, August 15, 1951; two, August 13, 16, 1953; one, July 5, one, August 6, 1954; two, August 18, 21, 1955; one, August 11, 1956; one, July 24, two, August 1, 6, 1957; three, late August, 1958; ♀, June 22, three, July 9, 24, 27, ♀, August 9, 1959; one, May 10, 1960; none, 1961-62 (A. M. Morley).

VARIATION.—Knaggs (1870) records "fine peculiar dusky varieties" from Folkestone Warren; and Barrett (*Br. Lep.*, **2**: 275) states that one reared from a Folkestone larva, had grey hindwings.

Marsh (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1955: 35; *op. cit.*, 1956: 37) exhibited one ab. *fervida* Stgr., Ickham, 1955; also eight bred ♂♂ ♀♀, from Reinden Wood, Folkestone, 1927, referable to ab. *borealis*.

The following abs. are in R.C.K.:—*intermedia* Tutt, one Folkestone, 1895, one Greenwich, 1910; ab. *marginata* Tutt, one, N. Kent, 1931.

FIRST RECORD, 1828: Stephens, *Haust.*, **2**: 74.

#### **Parasemia plantaginis L.: Wood Tiger.**

Native. Woodland clearings, particularly those on chalk; foodplant unknown. Less frequent now than formerly, with no record of occurrence since 1948. Extinct in 1.

1. West Wickham Wood, common (Douglas, *Entomologist*, **1**: 66); 1857, 1858 (Healy, *Ent. week. Int.*, **2**: 93, **4**: 85); two, June 12, 1858 (H. Tompkins, *Diary*); 1859 (Tibbs, *Ent. week. Int.*, **6**: 90); two, May 1859, flying with *A. euphrrosyne* (Allchin, *Ent. week. Int.*, **7**: 188). Birch Wood, May

30 (1841) (Courtney, *Entomologist*, 1: 227). West Wood, formerly (Fenn, *Lep. Data*, 1861).

3. Blean Woods, two, June 2, 1857 (Stowell, *Ent. week. Int.*, 2: 94); over twenty, May 27-June 3, 1866 (Fenn, *Diary*). Thornden Wood, one, June 24, 1945 (P. F. Harris).

6. Luddesdown (E. Andrews, in Chaney (1884-87)). Greenhithe, in moth trap, 1900 (Farn MS.). Shoreham (V.C.H. (1908)).

6a. Darenth Wood, not uncommon in certain years (Stephens, *Haust.*, 2: 73); two, May 29, 1865 (Fenn, *Diary*). Chattenden.—“Excessively abundant, but local. One afternoon in May, I captured a great many after 5 p.m.; before that, I had only seen one or two” (Crozier, *Nat. Hist. Rev. (Proc. Dublin Univ. zool. bot. Ass.)*, 5: 128); ♂, July 25, 1870 (J. J. Walker, in Chaney (1884-87)); 1884-85, one, June 14, 1887, several, June 20, 1891, June 4, 1892 (Fenn, *Diary*); two, 1875, also in 1894 (Farn MS.); 1890, 1891 (Tyler, *Ent. Rec.*, 1: 207; 2: 111); 1895, exhibited by Rose, at North Lond. nat. Hist. Soc. (*Ent. Rec.*, 7: 23); rare, 1902-07, one, June 19, 1907 (H. C. Huggins).

7. Wigmore Wood, one; Great Cowbeck Woods (Chaney (1884-87)). Detling, one, [c. 1885] Cave-Brown, in Maidstone Mus. (C.-H.). Westwell (Scott (1936)). Long Beech Wood (Scott (1936)); two ♂♂, June 5, 1938 (C.-H.). Rainham Park, 1940 (R. Birchenough).

8. Lady Wood, 1869 (Ulyett, *Ent. mon. Mag.*, 6: 94; *idem, Qtly. J. Folkestone nat. Hist. Soc.*, 1869 (4), 95). Folkestone district, 1892 (Fellows, *Entomologist*, 25: 322). Wye (V.C.H. (1908)); (Scott (1936)). Ewell Minnis and Woolwich Wood, 1924; Poulton (E. & Y. (1949)). Stowting (C. A. W. Duffield). Near Selsted, ♂, June 13, 1928 (A. M. Morley). Elham Park Wood, ♂, June 30, 1930; Atchester Wood, ♂, June 21, 1930 (G. H. Youden). Reinden Wood, plentiful in one spot, June 10, 1929, very plentiful, June 21, 1929 (H. G. Gomm, *Diary*); ♂, June 19, 1929 (A. M. Morley); June 22, 1930 (A. J. L. Bowes). Near Acrise, a number in a wood, c. 1930 (A. G. Riddell, teste A. M. Morley). Elham, ♂, June 15, 1931 (A. G. Peyton). Woolwich Wood, one, 1923, four, 1924, one, 1927; Elham Park Wood, five, June 13-18, 1925 (W. E. Busbridge). Elham Park Wood, two, June 7, seven, June 9, 1938 (A. H. Lanfear MS.). Kneading Trough, Brook, c. 1947 (J. A. Parry). Dover, two, 1938 (B. O. C. Gardiner). West Wood, one, 1948, noted on a visit by Folkestone nat. Hist. Soc. (A. M. Morley).

11. Wateringbury, several (Goodwin coll.) (V.C.H. (1908)). Hoads Wood, June 8, 1938 (Scott (1950)).

12. Capel Wood (Scott (1950)).

13. Tunbridge Wells neighbourhood\*, scarce (A. D. Reed, in Knipe (1916)).

VARIATION.—The following abs. are in R.C.K.:—*ypsilone* Pictet, ♂, “Chatham, W. Crocker, 1908”; *melas* Christoph, ♂, West Wickham, bred, Salter coll., V. Harpur Crew coll., Willoughby Ellis coll.; *brunnescens* Schawerda, ♀, “June, 1926, Kent, Baron Bouck”.

FIRST RECORD, 1828: Stephens, *Haust.*, 2: 73.

#### **Arctia caja** L.: Garden Tiger.

Native. Gardens, marshes, waste places, etc.; on *Urtica dioica*, dock, *Lamium album*, *L. purpureum*, *L. amplexicaule*, *Tussilago farfara*, comfrey, *Cynoglossum officinale*, *Ballota nigra*, *Lepidium*, *Aubretia*, hollyhock, dandelion, groundsel. Fairly frequent and found in all divisions.

"Generally distributed, but not so common as formerly" (V.C.H. (1908)).

The species is liable to marked numerical fluctuation, judging by comparisons of the numbers of larvae noted from year to year. Newman (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1912-13: 65; *Entomologist*, **40**: 117) reported that in 1907, the larvae were practically non-existent in localities in Kent [Bexley district], where they were usually abundant; and in 1912, only three were found, where in ordinary years hundreds could have been taken. He attributed the cause in each case to the abnormal heat of the autumn of 1906, and summer of 1911 respectively, and suggested the larvae were carried past their usual stadium, the majority dying in the winter in consequence. Huggins (*Entomologist*, **40**: 139) confirmed its comparative scarcity in 1907, in the Gravesend neighbourhood, and gave the following figures of larvae obtained:— 1902 (95), 1903 (298), 1904 (374), 1905 (531), 1906 (117), 1907 (64). Stainton (*Ent. mon. Mag.*, **23**: 67) states that at Lewisham in 1886, he failed to see a single larva, though formerly very common there; according to Carr (*Entomologist*, **33**: 47), however, in 1899, the larvae were abundant in a garden, nearby at Lee. W. V. D. Bolt (*personal communication*, 1962), told me the imago was common at m.v. in his garden at Goudhurst (div. 13), in 1952, but had not been seen since (C.-H.).

Morley (1931) stated that he found it less common in the Folkestone district than in most other localities. Some thirty years after, however, he writes (*in litt.*, 1962) that the m.v. lamp has shown that the moth is in fact much more numerous there than was supposed, and much commoner than *A. villica*, and he gives the following figures of its occurrence at a m.v. trap in a garden in the town: 1951, July 17-29 (16); 1952, June 28-August 24 (94); 1953, July 3-August 20 (118); 1954, July 14-August 13 (65); 1955, July 17-August 24 (250); 1956, July 21-August 29 (25); 1957, July 1-September 2 (68); 1958, July 24-August 26 (29); 1959, July 8-August 23 (43); 1960, July 15-August 25 (27); 1961, July 12-August 3 (12); 1962, August 1-30 (13). Where the sexes were recorded, he found 153 ♂♂ to 7 ♀♀. By comparison, W. L. Rudland's figures for two inland localities are given as follows: Wye, 1953, July 2-August 15 (41); 1954, July 11-September 2 (104); 1955, July 12-August 19 (78); 1956, July 12-August 14 (80). Willesborough: 1954, July 11-August 18 (31); 1955, July 11-August 17 (77); 1956, July 8-August 21 (68).

The larva has been found in Kent, perhaps mainly on *U. dioica* and *L. album*. It has also been noted on dock (West, *Ent. Rec.*, **18**: 171); one, on *Lepidium*, Folkestone Warren, May 19, 1929; one, on *Aubretia*, Folkestone Town, April 13, 1944 (A. M. Morley); one, on groundsel, Lee, late September 1947, ♀ reared (D. Lanktree). At Gravesend, 1900-10, H. C. Huggins found larvae on *U. dioica*, *L. album*, and dock; also, once or twice on *L. purpureum*, and once on *B. nigra*. He writes (*in litt.*) that "the last is somewhat inexplicable as I find the beast does not like it in captivity, but these were two or three eating it, not sunning themselves". The same observer also noted it at Faversham, 1924-26, on *U. dioica*, *L. album*, *T. farfara*; at Deal, on comfrey on the marshes, 1926, and on *C. officinale* on the sandhills, 1909. It is interesting to record that contrary to Huggins' experience, B. K. West finds it most readily at Dartford on *B. nigra*, and considers this to be its choice of foodplant there; he writes that he has also come across a fair number there on *U. dioica* and *L. album*, also odd ones on dock, hollyhock, *L. amplexicaule*, *L. purpureum*, and dandelion.

VARIATION<sup>1</sup>.—Exceedingly variable, no two being exactly alike; extreme aberrations, however, are scarce.

In R.C.K. there are the following ab. from Kent:—*lutescens* Cockerell, Bexley, two; *similis*, Szulczewski, Bexley, two bred, 1934; *flava* Aigner, several; *straminea* Cockayne, paratype, Bexley, also "N. Kent"; *rosacea* Newnham, Canterbury, bred July 1908; *flavosignata* Closs, Lee, bred 1896; *gebhardti* Horhammer, Dover, 1888; *lactipennis* Cockayne, holotype, taken Broadstairs, F. Gillett (*Proc. S. Lond. nat. Hist. Soc.*, 1947-48: 174); *mediodeleta* Cockayne, Bexley; *albociliata* Stattermayer, Canterbury, Herne Bay, Bexley; *trans. ad muecki* Kramlinger, Folkestone, 1892; *basicincta* Cockayne, several *aurantiaca* Klem; Herne Bay, Canterbury, both bred; *iuncta* Biezanko, N. Kent; *confluens* Garbowski, Canterbury, bred, 1931; *nigropennalis* Stattermeyer, Herne Bay, 1922; *nigrescens* Lamb., Strood, 1887; *obscura* Ckl., Greenhithe, bred 1899 (probably that recorded in *Entomologist*, 33: 103, plt. 3, fig. 9); *cosolidata* Cockayne, Folkestone, 1892; *biconjuncta* Stattermeyer, Greenwich, 1919.

A. M. Morley (*in litt.*) writes that in his series from Folkestone he has no major ab., but a good many minor ones, e.g., three "in which the base of the trident on the forewings is joined to the oblong black mark on the inner margin as in ab. *confluens* Rbl."; and two, where "the inner prong is separated from the others". He says that in his experience, the commonest ab. is one "in which one or more of the dark marks on hindwings are reduced to dots or absent". He mentions one specimen, with forewing cilia pink; and two others, with dark cilia on upper margins of hindwings; and adds, that specimens with hindwings approaching orange in colour are not scarce.

In Br. Mus., S. Kensington, are two labelled as ab. *lutescens* Tutt: ♂, Gravesend, 1904, Huggins; one, Woolwich, 1904, W. G. Crawford (C.-H.); Rait-Smith (*Proc. S. Lond. ent. Nat. Hist. Soc.*, 1931-32: 92) exhibited "an extremely melanic specimen", Rochester, bred, July 1931; and a number of other ab. have been recorded (cf. *Proc. S. Lond. ent. nat. Hist. Soc.*, 1945-46: 18; 1955: 37; 1959: 43).

FIRST RECORD, 1861: Lewisham, larva, March 12, 1861 (*Fenn, Diary*). But doubtless first noticed in the county long before.

<sup>1</sup>A most interesting and detailed account of the variation and genetics of this species, by E. A. Cockayne, appeared in *Proc. S. Lond. ent. nat. Hist. Soc.*, 1947-48: 155-191.

#### ***A. villica* L. ssp. *britannica* Ob.: Cream-spot Tiger.**

Native. Woods, marshes, sandhills, chalk downs, etc.; on chickweed, *Senecio vulgaris*, *S. jacobaea*, currant, *Hieracium*, *Ballota nigra*, *Lamium album*. Found in all divisions, and fairly frequent in suitable localities. Few records for 5, 9; apparently rather scarce in 1.

The records show this to be yet another species whose numbers vary much from year to year. In the Gravesend neighbourhood, Huggins (*Entomologist*, 40: 138-139) recorded his annual larval totals as follows:—1902 (49), 1903 (106), 1904 (25), 1905 (51), 1906 (none), 1907 (124); Newman (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1920-21: 56) stated that in W. Kent in the spring of 1920, the larvae were very scarce where usually it was abundant; and at Fawkham (div. 6), G. G. E. Scudder states that he has found the moth to occur there commonly, and in 1948 it was abundant, but that in 1949 only a few appeared.

The moth has sometimes occurred plentifully in other places. For example, on the Sandwich sandhills, A. J. L. Bowes noted it as "sometimes swarming at light"; A. H. Lanfear (*Diary*) wrote that when there on June 6, 1938, "the first warm night of the year, *villica* in abundance but rather poor condition"; and de Worms (*Entomologist*, **68**: 101) recorded it in fair numbers on his sheet, in the same area on June 14, 1934. It was also found plentifully on Chilham Downs, June 10, 1922 (Gomm, *Diary*); and at Orlestone Woods, where I usually see it in numbers at light, about 30 occurred there at m.v. on June 2-3, 1950 (C.-H.).

The larva has been found on chickweed in the Lee district (*Ent. Rec.*, **18**: 171); and H. C. Huggins has found it at Gravesend, on *S. vulgaris*, chickweed, and on "that big *Hieracium* that grows by the roadside", also on the river wall at Faversham on *S. jacobaea*. B. K. West has found it occasionally at Dartford on *B. nigra* and *L. album*; and A. M. Morley writes that D. Saunders noted it in numbers, c. 1927, on *S. vulgaris*, by the turnpike on the Lower Sandgate road, Folkestone. On June 25, 1930, A. M. Morley found a batch of ova on a currant bush in a deserted garden in Folkestone.

1. Recent records for this division are:—Chislehurst, one in garden, 1940 (S. F. P. Blyth). Petts Wood, at light, one, 1948, one, 1949, one, 1950 (E. Evans). Dartford (B. K. West). Bexley, ♂, at m.v., May 31, 1952 (A. Heselden). Orpington, 1953 (L. W. Siggs). St Mary's Cray, 1954, and several since (R. G. Chatelain).

5. Westerham (R. C. Edwards). Polhill, larvae near the bottom of the hill, April 13, 1941, imagines emerged, June 20, 1941 (R. Birchenough). Chelsfield, 1951 (A. M. Swain).

9. St. Peters, one, June 7, 1944 (J. W. C. Hunt). Cliftonville, ♂, June 22, 1954 (W. D. Bowden).

VARIATION.—Oberthur (1911, *Études de Lépidoptérologie Comparée*, **5** (1) 132-136) recognised *britannica* (from nymotypical *villica*, which he considered to have come from Germany) as a race having the spots on the forewings less white and more cream-coloured; on the hindwings, the apex less heavily marked with black; and cited Barrett (*Br. Lep.*, **2**) fig. 1, plt. 73, as depicting this form, which he says is that represented in Britain and W. France.

Huggins (*Ent. Rec.*, **65**: 17) recorded that from about 300 wild larvae from Gravesend, he reared one ab. *ursula* Schultz and ten ab. *confluens* Rom. I have two ♂ *ursula*, one of which I took at Orlestone Woods, in 1950, and the other at Dungeness, in 1952; also a ♂ ab. in which the apical spots on forewings are joined, taken Orlestone Woods, 1954 (C.-H.).

Carr (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1952-53: 23) exhibited ab. *contracta* Schultz, bred from Dungeness; and Coxey (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1957: 24) exhibited an ab. from the same locality, with "all normal spotting absent", a very striking insect, as can be seen from plt. 2, fig. 1.

The following abs. from Kent are in R.C.K.:—*contracta* Schultz; *floresi* Agenjo; *strandi* Schultz; *nigrociliata* Cockayne; paratype, Folkestone, 1898; *neglecta* Schultz; *confluens* Ob.; *ursula* Schultz; *nigrella* Fettig; *krodeli* Schultz.

FIRST RECORD, 1828: Sydenham (Stephens, *Haust.*, **2**: 72).

## HYPSINAE

**[*Euplagia quadripunctaria* Poda (*hera* L.): Jersey Tiger.**

Vagrant?

The lack of essential detail is very unsatisfactory, yet the possibility of casual immigration should not be ruled out<sup>1</sup>.

8. At a meeting of the Entomological Society of London on October 4, 1876, "Mr. Stevens mentioned that a specimen of Callimorpha hera . . . had been taken at St. Margaret's Bay, near Dover" (*Proc. ent. Soc. Lond.*, 1876: xxx); the specimen, which was exhibited, was "believed to have been taken recently" (*Ent. mon. Mag.*, 3: 144). One, "near Guston, some years ago" (Webb (1891)), may refer to the preceding occurrence.]

<sup>1</sup>The species is recorded as having occurred in Sussex in 1885, 1868, and 1946 (cf. *Zoologist*, 4953; *Entomologist*, 4: 213; *Proc. S. Lond. ent. nat. Hist. Soc.*, 1885: 5; *Ent. Gaz.*, 7: 90).

***Panaxia dominula* L.<sup>1</sup>: Scarlet Tiger.**

Native. Chalk banks and undercliff, carr, gravel pits; on *Urtica dioica*, *Eupatorium cannabinum*, bramble, *Filipendula ulmaria*, *Cynoglossum officinale*, "White Archangel". Extremely local, and now extinct except in 4, 8.

1. Charlton (see *First Record*).—"The Caterpillar . . . is to be taken feeding on the *Hounds-Tongue*, *Nettles*, and *White Archangel*". "If you look for them from Charlton Church in Kent, down to the Road that leads to Woolwich, there you will find them in Plenty" (1773, Wilkes, 120 Copper Plates of English Moths and Butterflies, 19); formerly in great abundance at Charlton, but within the past 2-3 years most of the broods have been wantonly destroyed, and are now seldom met with (1795, Donovan, *Nat. Hist. Br. Insects*, 4: 87-88). Erith (1766, Harris, *Aurelian*, 80). Formerly "taken in considerable plenty in the lanes near Charlton and Blackheath, but of late has become scarce near London" (1828, Stephens, *Haust.*, 2: 67). "An old gravel-pit on the London side of Dartford" (1869, Newman, *Br. Moths*, 31). [In Tring Mus. are nine *dominula* labelled "Woolwich, 1899. Smart."† (Kettlewell, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1942-43 (1). 9). Introduced? (C.-H.).]

[(Blackheath, "was taken fairly recently in a restricted locality not far removed from that area" (de Worms, *Lond. Nat.*, 1953: 136). I don't believe this to have been a natural occurrence, but due to released stock, notwithstanding the circumlocution and implied secrecy (C.-H.).)]

4. Ham Fen, two, August 5, 1889, two, July 25, 1891 (Fenn, *Diary*) (the statement in V.C.H. (1908) that it occurred "sparingly in one or two more inland localities", may refer); about twelve imagines seen one day in July 1947; imagines plentiful, 1951 (F. Rose); one, July 9, 1960 (C.-H.). Worth area.—"I flushed a specimen in fresh condition on 1st July 1935" (B. Embry, *in litt.*) (this is the basis for the statement in E. & Y. (1949), that it was found "in a marshy locality further inland"; it does not, however, refer to Ham Fen (B. Embry)).

6. Dartford Brent.—The late T. L. Barnett told me it used to occur here, c. 1860 (C.-H.).

6a. Darenth Wood.—"Very abundant at Darenth-wood last June" (1828) (Ingpen, in Stephens, *Haust.*, 2: 198).

8. Reference to this species under "Dover," "Deal", "Kingsdown", "Walmer", and "St. Margaret's Bay", doubtless all relate to the stretch

of undercliff extending from St. Margaret's Bay northwards to the rifle butts at Kingsdown; a narrow strip of rough chalk vegetation that has gradually been diminished owing to cliff falls and the encroaching sea. By 1925, the whole of the St. Margaret's Bay end had been swallowed up, leaving only the last half mile or so northwards from the north of the Bay to the end of the butts. Lately, this remaining portion has been further reduced by extension of the rifle range, so that it is now restricted to but a few hundred yards in length.

Although *dominula* is recorded from a number of places elsewhere in England as far north as Derbyshire, its habitat here on the east coast of Kent is quite unlike that of any of the others in this country. There are indications, too, that this particular colony has a distinctly different origin, and may even constitute a separate race (see under *Variation*).

The records show that during the latter half of the 19th century, the strength of this colony underwent extreme changes, but that during the present century, it recovered somewhat, to persist at a fairly high level of density. In 1959, however, its numbers were very seriously depleted, and it is doubtful whether the species can now survive much longer.

Two specimens in Alfred Greenwood coll., labelled "Dover, Leplastrier, 1846" (Raynor, *Ent. Rec.*, **25**: 11). In 1856, *dominula* was stated to be "plentiful" (Harding, *Ent. week. Int.*, **4**: 108); but by 1884, according to T. Sorrell, it had become nearly extinct owing to a collector named Smith having paid children to collect the larvae (Fenn, *Diary*, 16.ix.1884). In 1887, larvae were offered at 4s. per gross by H. Chatwin, the Dover naturalist (Fenn, *Diary*). C. G. Hall (*Ent. mon. Mag.*, **24**: 159), writing in 1887, stated that for many years past it had been abundant, but due to cliff falls, and the predatory incursions of numerous collectors, it was rapidly decreasing, and added that instead of the thousands seen in former years, he only noticed two that summer. In 1896, however, according to Tremayne (*Entomologist*, **25**: 246), it was "excessively abundant"; in 1900, "comparatively scarce" (Turner, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1900: 72); in 1902, "fairly common" (Carr, *Entomologist*, **25**: 246); and in 1923, 1937, 1939-42, abundant (Kettlewell, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1942-43 (1): 8). A. M. Morley found the larvae in large numbers, May 28, 1929, and saw sixty moths sitting about by day, July 14, 1933. On April 28, 1939, I myself noted several hundred larvae, mostly full-grown, the majority on *U. dioica*, but also a good many on *E. cannabinum* and bramble, and several on *F. ulmaria*; in 1952, 1954, 1955, the larvae appeared to be in about equal abundance, and on August 3, 1958, a number of late imagines were seen, some of which were flying in the morning sun (C.-H.).

L. Hugh Newman (1959, *Field*, **213**: 950) writes that he was told the site was to be bulldozed to extend the rifle range, and states that in the spring of 1959, he and his son visited the locality with several large breeding cages, and in his own words: "set to work to collect every caterpillar we could find", with the result that "the cages were filled with hundreds of caterpillars". He says that 350 of these caterpillars were liberated on a private estate near Lincoln, at the expressed wish of the owner, but adds (*in litt.*) that "it was not a success, the larvae all disappeared and were not seen next season".

On April 23, 1962. I visited Kingsdown, and found that although much of the site had been ruined, there still remained portions of the habitat, including the whole of the extent of undercliff beyond the breakwater,

which had not been touched and was, therefore, still intact. A close search of the whole area, however, only revealed some twenty larvae (C.-H.).

[(Ulyett (1880, *Rambles of a Naturalist round Folkestone*, 37), says in reference to Folkestone Warren, that many scores of the caterpillars and moths, apparently from Kingsdown, have been turned down there, but that no *dominula* has ever been bred from them).]

VARIATION.—Kettlewell (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1942-43 (1): 8) states that *dominula* from the Kingsdown colony "can in most cases be recognised from those from other localities"; and adds that "In many ways it can be compared with North French *dominula* with which undoubtedly it had fairly recent connections". He explains (*in litt.*) that "the majority of *dominula* occurring at Kingsdown are somewhat smaller and have narrower wings than those from, let us say, the river Test. Secondly, a large number of individuals have a mark in the central position of the hindwings which varies from a diffuse yellowish spot to a minute black dot. Breeding experiments which I did, showed that this was in no way associated with *f. medionigra*. Thirdly, the white anal spot on the forewing frequently tends to be uncinate".

Watson (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1958: 44) exhibited a series from Deal, "approaching *brunnescens* Kettlewell"; Kershaw (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1953-54: 33) exhibited ab. *bimacula* Cockayne, Kent, bred from ova; and Kettlewell (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1942-43 (1) 28 *et seq.*) includes the following ab. from Kent: *illustris* Kettlewell; *juncta* Cockayne; *flavomarginata* Kettlewell.

The following ab. are in R.C.K.:—*privata* Kettlewell, one, "Woolwich, 1899, Smart"; *basinigra* Cockayne, Deal, one, 1938, one, 1940, both bred; *trans ad basinigra* Cockayne, several; *paucimacula* Schultz, one, "Dover bred, 29/7/07"; *albomarginata* Kettlewell, one, Kingsdown, bred 1942; *flavoconferta* Reich, numerous; *hamelensis* Pfluemer, three, Kingsdown, bred 1942; *lutea* Staudinger, seventy-eight, many bred, dated 1909, 1915, 1923, 1926; *conferta* Schultz, six, bred; *diluta* Kettlewell, several, including holotype, Deal, ex larva, 1937; *crocea* Scholtz, two; *junctasuffusa* Kettlewell, one, taken St. Margaret's Bay, 1882; *brunnescens* Kettlewell, a few, including holotype, Kingsdown, bred 1940, ex wild larva; *trans ad brunnescens* Kettlewell, several; *nigra* Spuler, one, "Deal, 1884, S. Smith" (Barrett, *Br. Lep.*, 2, plt. 70, fig. 1e); ab., having ground colour of hindwing pale cream, and forewing spots white, Kingsdown, 1883, J. Sorrel. Also, several remarkable asymmetrical and pathological specimens.

FIRST RECORD, 1766: "The best place to obtain this Caterpillar, is at Charlton, in Kent, down in the Chalk Dell, near the halfway house to Woolwich; and on beating the nettles which grow on the sides of banks, or other eminences, they will roll down in plenty" (Harris, *Aurelian*, 75). "I did once pick up one at Erith, in Kent, and I endeavoured to discover some more, but searched in vain for some time" (Harris, *op. cit.*, 80).

<sup>1</sup>This species, because of its attractiveness, the ease with which the larvae can be collected and, above all, its extreme localisation, has suffered perhaps more than any other local Kentish lepidopteron. Recently, the removal from the classic Kingsdown colony of almost every larva, and the unfortunate attempt to establish it elsewhere, must be greatly deplored by all who value our native fauna. It is, therefore, earnestly hoped that entomologists will be careful to give the few survivors at Kingsdown, every opportunity to increase in numbers.

## SYNTOMINAE

[**Syntomis phegea** L.: Nine-spotted.

Suspected vagrant.

Apparently authentic, and the only known British occurrence.

8. One taken by J. G. Batchelor, and recorded by W. H. Tugwell (*Entomologist*, 7: 89), who fully vouches for the *bona fides* of the captor, and quotes from a letter from him as follows: "I took it on the coast, between Folkestone and Dover, on the wing, about half-past twelve o'clock, July 24, 1872, weather bright and hot . . ." Webb (1891) includes the species with the remark: "Below the cliff". The specimen, which was exhibited by Tugwell (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1885: 6), was later purchased at the Tugwell coll. sale by E. R. Banks for £3 (*Entomologist*, 29: 60), and is now in the Br. Mus., S. Kensington (C.-H.).]

## NOCTUIDAE

## AGROTINAE

**Actinotis polyodon** Clerck (**perspicillaris** L.): Purple Cloud.

Immigrant.

8. Reinden Wood, ♂, taken at sugar by E. W. Brown, June 4, 1892 (*Ent. Rec.*, 3: 159; *Proc. Folkestone nat. Hist. Soc.*, 1892: 26; *Proc. S. Lond. ent. nat. Hist. Soc.*, 1926-27: 102).

[(One, "at Ashford in Kent" (*Young Nat.*, 1 (29), 231), is almost certainly an error for the one taken at Ashford, Hants., exhibited by Hawker at Entomological Society of London in May 1855)].

FIRST RECORD, 1892: Reiden Wood, near Folkestone (Brown, *Ent. Rec.*, 3: 159).

**Euxoa cursoria** Hufn.: Coast Dart.

Immigrant?

8. Dover.—♂, taken by G. H. Youden in m.v. trap in his garden, August 6, 1957. I have examined the specimen, and there is no doubt at all that it is *cursoria*; it is a rather large example of al. *expanse* 37 mm., is in good condition, and is referable to ab. *mixta* Fab. (C.-H.).

[(The species has been erroneously recorded from Kent in the past owing to confusion with *E. tritici* L. Thus, Tutt (*Entomologist*, 18: 95) states: "I took some very extreme and beautiful forms of *A. cursoria* [at Deal, in August 1884], some closely resembling the Shetland forms". This he corrected at some length (in *Br. Noct.*, 2: 20, 26-27) as follows: "My Kent specimens are purely and simply *cursoria*-like varieties of *tritici* . . ."; and remarked (in *Entomologist*, 23: 143) that the reticulated form of *tritici* without pale costa is often mistaken for *cursoria*. The following records are very probably based upon wrong determination: Kent coast (*Zoologist*, 4484) (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1912-13: 134); Rams-gate neighbourhood (*Entomologist*, 23: 140); Greenwich; Deal (V.C.H. (1908)).]

FIRST (CONFIRMED) RECORD, 1957: Dover (G. H. Youden).

**E. nigricans** L.: Garden Dart.

Native. Gardens, marshes, cultivated and waste places; foodplant unrecorded. Found in all divisions, but with seemingly a preference for low-lying areas.

The species was noted in abundance during the 19th century, par-

ticularly in the marshes of north-west Kent. It appears to have become generally less numerous since, and there is no recorded instance of its having been observed really plentifully in the county for more than fifty years.

1. Lewisham district, 1861 (Fenn, *Ent. week. Int.*, **10**: 196). Brockley (Turner, *Ent. Rec.*, **1**: 349). Lee, 1900 (Carr, *Entomologist*, **34**: 108); uncommon (Green, *Trans. W. Kent nat. Hist. Soc.*, 1905-06: 16). Chislehurst, one, September 6, 1907 (S. F. P. Blyth). Bexley; Farnborough; Hither Green; Eltham (*Wool. Surv.* (1909)). Sidcup, singletons, 1910, 1911, 1914, 1934, two, 1913 (A. R. Kidner). Abbey Wood (Juby & Hards (1925)); 1952 (A. J. Showler). Dartford (B. K. West). West Wickham, 1949, 1952, two, 1958 (C.-H.); two (R. Birchenough). Orpington, 1953, 1956 (L. W. Siggs), St. Mary Cray, (R. G. Chatelain). Bromley, two, 1959, including one on June 16, a very early date, five, 1960, six, 1962 (D. R. M. Long).

2. Deptford Marshes, in great abundance (Standish, *Ent. Mag.*, **2**: 435). Gravesend, "banks of the Thames below Gravesend", larvae June, imago July (Stevens, *Zoologist*, 1787). Northfleet (Hodgkinson, *Zoologist*, 2328). Woolwich district\* (Jones, *Ent. week. Int.*, **10**: 188). Greenhithe\* (Farn MS.). Greenwich Marshes, two, August 5, 1862 (Fenn, *Diary*); "Have seen it in thousands in the market-gardens" (J. W. Tutt, in Buckell & Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1899: 70). Rochester district\*, common everywhere (Chaney (1884-87)). Higham, July 29, 1926 (F. T. Grant). Sheppen, 1936 (E. H. Wild). Dartford (B. K. West).

3. Herne Bay, four, July 1936 (A. J. L. Bowes); one, 1953 (D. G. Marsh). Broad Oak, singletons on buddleia, 1944, 1950, 1951, 1956 (C.-H.). Whitstable (P. F. Harris).

4. Deal (Tutt, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1886: 71). Sandwich, July 18, 19, August 22, 1936; August 8, 1938; August 9, 1939 (A. J. L. Bowes); about twelve at sugar between 10 p.m. and 2.30 a.m., July 22-23, two at sugar, August 5, 1950 (C.-H.). Reculver (A. J. L. Bowes).

5. Chevening, August 7, 1912 (Gillett, *Diary*). Westerham (R. C. Edwards).

6. Cuxton\* (Tutt, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1886: 13). Gravesend, numerous at sugar, 1911-12 (F. T. Grant). Pinden, uncommon (E. J. Hare). Dartford (B. K. West). Meopham, August 3, 13, 15, 1960, August 26, 1961 (J. Ellerton).

6a. Darent Wood (Stephens, *Haust.*, **2**: 125); 1894 (James, *Entomologist*, **28**: 86).

7. Westwell, several, August 6-14, 1938; Charing, August 16, 1938 (Scott (1950)). Boxley, 1953 (A. H. Harbottle).

8. Folkestone\* (Knaggs (1870)). Dover—two, July 18, one, August 1, one, August 3, 1901; two, on the cliffs, July 25, 1901; Kearsney, nine, July 23, two, July 27, 1901, all at flowers (H. D. Stockwell, *Diary*); one, August 3, 1957 (C.-H.).

[Folkestone Warren (Morley (1931)), is unconfirmed (A. M. Morley, *in litt.*)]

9. Ramsgate (J. W. C. Hunt). Margate, July 27, August 3, 1951, few, August 18, 1954 (W. D. Bowden).

10. Sevenoaks, at light, 1950 (F. D. Greenwood).

11. Tonbridge (H. E. Hammond). Aylesford (G. A. N. Davis). Betherston, August 15-20, 1960 (C. R. Haxby and J. Briggs).

12. Canterbury, at buddleia, c.1947 (J. A. Parry). Brook\* (C. A. W. Duffield). Wye, fifteen, July 21-September 15, 1953, fifteen, August 4-19,

1954, seven, August 2-26, 1955, fifteen, July 22-September 2, 1956; Willesborough, eighteen, August 3-31, 1954, six, July 22-August 16, 1955, thirty-four, July 21-August 31, 1956, with maximum of six, August 9 (W. L. Rudland). Ashford, in garden in town and on golf-course (P. Cue).

13. Tunbridge Wells, fairly frequent (Knipe(1916)); scarce (Given (1946)).

14. Hawkhurst (B. G. Chatfield). Iden Green, one, 1951 (H. Boxall).

15. Littlestone, August 12-14, 1922 (Gillett, *Diary*). Dungeness, one, August 12, 1932, several, August 16, 1934, two, July 26, 1935, two, August 5, 1945, two, August 5, 1950, all at sugar (A. M. Morley); August 6, two, September 11, 1938 (Bowes, *Ent. Rec.*, 51: 109); one, August 12, 1938 (C.-H.); July 27, 1956 (R. F. Bretherton); 1957 (E. Philp). Greatstone, one, August 5, 1935 (A. M. Morley).

16. Folkestone Town, one in house, August 8, 1947; six, July 13-August 5, 1952, twenty-three, July 15-August 20, 1953, seven, August 15-26, 1954, six, August 3-21, 1955, four, July 28-August 27, 1956, one, August 13, 1962 (A. M. Morley). Sandgate, one, 1960, one 1961 (N. Reay-Jones).

VARIATION.—Robson (*Br. Nat.*, 3: 67) states that "*Agrotis nigricans* is blacker from the Greenwich marshes than from the fields and marshes in the neighbourhood of Rochester"; and A. M. Morley (*in litt.*) writes:—"All my specimens from Romney Marsh and Folkestone, are of the usual Kent form, *rubricans* Esp.

Tutt (*Br. Noct.*, 2: 34-38) records the following abs. from Kent:—*pallida* Tutt; *flavo-pallida* Tutt; *rufa* Tutt; *ruris* Haw., fairly common; *obeliscata* Haw., very common; *rufo-variegata* Tutt; *rubricans* Esp., common; *quadrata* Tutt; *ochrea* Tutt; *fusco-variegata* Tutt; *rustica* Ev.

The following abs. are in R.C.K.:—*rufa* Tutt, Strood, 1903; *ruris* Haw., Strood, 1903, Darenth, 1904; *quadrata* Tutt, Strood, 1903; *marshallana* Westw., Herne Bay, 1936, A. J. L. Bowes; *fumida* Warren, Sandwich, 1936, Herne Bay, 1936. Also, the following referable to typical *nigricans* L.:—Lydd, one, 1938, Herne Bay, one, 1936, Sandwich, one, 1938, one, 1939.

FIRST RECORD, 1809: "Habitat in Cantio rarissime. Exemplarium unicum solum vidi" (Haworth, *Lep. Britannica*, 2: 222). This is the original reference to ab. *obeliscata* Haw.

#### **E. tritici** L.: White-line Dart.

Native. Coastal sandhills, heaths, etc.; foodplant unrecorded. Plentiful on the blown sand of div. 4; less numerous elsewhere.

1. Abbey Wood; Eltham (Jones, *Ent. week. Int.*, 10: 188). Lee, one, 1899 (Carr, in Buckell and Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1899: 70). Bostall Heath; Dartford Heath; Paul's Cray; Farnborough (*Wool. Surv.* (1909)). West Wickham (V.C.H. (1908)) (de Worms, *Lond. Nat.*, 1954: 73). Chislehurst; Sydenham, 1901 (Hammond, in Buckell and Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1901: 64). Chislehurst, two, at ragwort, August 1910 (S. F. P. Blyth). Sidcup, two, at light, 1912, one, 1913 (A. R. Kidner). Dartford, at honeysuckle and ragwort (B. K. West). Abbey Wood, at m.v., 1953 (A. J. Showler). St. Mary Cray, about six annually, 1955-58 (R. G. Chatelain). Blackheath, at m.v., several, August 1960 (A. A. Allen). Bromley, one, July 30, 1961, two. August 25-28, 1962 (D. R. M. Long).

2. Northfleet, six, 1848 (Hodgekinson, *Zoologist*, 2328). Sheppen, 1873

(Hodgson, *Ent. mon. Mag.*, **10**: 180); 1936 (E. H. Wild). Plumstead Marshes (J. A. Clark, in Buckle & Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1899: 70). Greenwich Marshes (C. Fenn, in *Wool. Surv.* (1909)). Dartford (B. K. West).

3. Herne Bay (A. J. L. Bowes). Whitstable (P. F. Harris). Broad Oak, at buddleia blossom, annually (C.-H.).

4. Deal, 1856 (Harding, *Ent. week. Int.*, **1**: 187); since noted plentifully by many observers on the sandhills between Deal and Sandwich (C.-H.). Reculver, not common, July 20, 24, 1936 (A. J. L. Bowes). Ickham (D. G. Marsh).

6. Rochester district\* (Chaney (1884-87)). Gravesend, 1910-12 (F. T. Grant). Pinden, not common (E. J. Hare). Meopham, fairly common, 1960 (J. Ellerton).

6a. Darent Wood (Bentley, *Entomologist*, **1**: 256).

7. Westwell, July 24, 1947 (Scott (1950)).

8. Folkestone, ♀, 1858 (H. Tompkins, *Diary*). Dover (Coverdale, *Entomologist*, **16**: 221). Wye Chalkpit, August 2, 1945 (E. Scott).

9. Ramsgate (J. W. C. Hunt). Margate, 1914, 1919, 1920; Birchington, three, July 21, 1922; Brooks End, two, August 11, 1922; Kingsgate, one, July 6, 1921 (H. G. Gomm). Margate, July 15, 1951, one, July 29, 1954 (W. D. Bowden).

11. Aylesford (G. A. N. Davis).

12. Ham Street (Scott (1950)). Ashford (P. Cue). Willesborough, ten, 1954, eight, 1955, twenty-five, 1956; Wye, fourteen, 1953, one, 1954, four, 1955, seventeen, 1956 (W. L. Rudland). West Ashford, fairly common at light, 1959 (M. Singleton).

13. Tunbridge Wells (E. D. Morgan).

14. Sandhurst, at sugar (G. V. Bull). Hawkhurst (B. G. Chatfield).

15. Littlestone, August 9, 1919, August 12-14, 1922 (Gillett, *Diary*). Lydd-on-Sea, July 19, 1930, six, 1935; Littlestone, two at marram, July 7, 1933, six at light, August 5, 1936 (A. M. Morley). Dungeness, three, August 6, 1938 (A. J. L. Bowes); July 7, 1959 (C. R. Haxby). Greatstone, a larva excavated from sandhills, May 25, 1963 (C.-H.). A. M. Morley says that he has taken it more often at Dungeness than elsewhere in this division, owing to more numerous visits, but the small numbers suggest that it comes from the sandhills rather than the shingle.—1936: one at sugar, September 10; 1938: one at sugar, August 19, and another on August 30, a night when there were about 3700 moths on the posts; 1945: four at sugar on another crowded night; 1950: one at sugar, July 29, one, August 13.

16. Folkestone, one, 1946; one, 1948; three, 1953; three, 1954 (A. M. Morley).

VARIATION.—In my series of some 150 Kent *tritici*, which includes many from the Sandwich-Deal sandhills, the variation is indescribably complicated, with no two individuals exactly alike, and a comparative assessment of the variability of the species in the county would require at least five times this number of examples in my view, as well as a great deal more time than is at my disposal. Briefly, however, the ground colour of these specimens ranges from pale greyish-white, through pale slate-grey, dove-grey, slaty-fuscous, pale greyish-fuscous, dark greyish-fuscous, pale yellowish-ochreous, reddish-brown, dull brown, blackish-brown, to greyish-black; thus covering most of the colour gradations as designated by Tutt. It is noteworthy that in Britain, the greyish-white, dove-grey, and slate forms are perhaps peculiar to the coastal sandhills of east Kent. About

one quarter of the examples in my Kent series have a pale costa. Only two specimens have the reniform and orbicular prolonged so that they reach one another, and in each case are joined under one encirclement (C.-H.).

Tutt (*Br. Noct.*, **2**: 44 *et seq.*) records the following abs. from Deal:—*obsoleta* Tutt; *costa-obsoleta* Tutt; *nana* Zell.; *caerulea* Tutt; *eruta* Hubn.; *vitta* Hubn.; *pallida* Tutt; *obsoleta-pallida* Tutt; *fusca* Tutt; *ochracea* Tutt; *valligera* Haw.; *albilinea* Haw.; *aquilina* God.; *fictilis* Hubn.; *aquilina* Hubn.; *venosa* Steph.; *nigro-fusca* Esp.; *gypaetina* Gn.; *nigra* Tutt; *ocellina* St.; *virgata* Tutt.

In V.C.H. (1908), *aquilina* Hubn. is recorded from Eltham; Folkestone; Greenwich; and *aquilina* (author?) is recorded from Northfleet (Hodgkinson, *Zoologist*, 2328); Abbey Wood; Eltham (Jones, *Ent. week. Int.*, **10**: 188; *Wool. Surv.* (1909)); Folkestone (Ulliyett (1880)); Dover (Coverdale, *Entomologist*, **16**: 221).

The following named abs. are in R.C.K.:—*obsoleta* Tutt, Dungeness, 1934; *fusca* Tutt, Sandwich, 1936; *ochracea* Tutt, Deal, 1899; *fumosoides* Culot, two, Sandwich, 1936; *fusca* Tutt, Sandwich, two, 1936, Dungeness, one, 1932, three, 1934; *costa-caerulea* Tutt, Sandwich, three, 1936; *sordida* Haw., Deal; *nigrofusca* Esp., Deal, 1899; *costa-fusca* Tutt, Dungeness, 1934; *albilinea* Haw., Deal, 1899.

FIRST RECORD, 1842: Darenth Wood (Bentley, *Entomologist*, **1**: 256).

#### **E. obelisca** Schiff.: Square-spot Dart.

Suspected adventive<sup>1</sup>.

15. Dungeness, ♀, taken at sugar by Austin Richardson, August 8, 1945 (Chalmers-Hunt, *Bull. K. Fld. Cl.*, **4**: 21), is the only known occurrence.

[(Its inclusion by Grove & Morgan (in *Trans. K. Fld. Cl.*, **1** (3), 130) for Burham Down was based upon erroneous determination (C.-H.). The species has also been recorded in error by Tutt (*Entomologist*, **18**: 94; *Br. Noct.*, **2**: 20); and Browne (*Entomologist*, **35**: 269, 288).)]

FIRST RECORD, 1945: Dungeness (A. Richardson).

#### **Agrotis segetum** Schiff.: Turnip Moth.

Resident, probably reinforced by immigration<sup>1</sup>. Vegetable fields, gardens, waste places, etc.; on roots of cabbage, celery. Found in all divisions. "Generally abundant" (V.C.H. (1908)).

The moth is ordinarily found more often in the first than in the second brood. It is usually fairly numerous, but is very much less plentiful some years, and appears in fact to be at a rather low ebb at the present time, judging by the comparatively small numbers noted at regularly run m.v. traps. Thus, in 1962, at Folkestone (div. 16), only twenty-three occurred June 19-August 6, with none at all in September, and but three, October 1-24 (A. M. Morley); at Sevenoaks Weald (div. 11), altogether only five in 1959, and nine in 1960 (E. A. Sadler); and at Dungeness, in 1962, although a trap was run there almost every night from April to early September, a total of only three *segetum* was noted thus: June 20, July 1, 15 (R. E. Scott).

From time to time the species has appeared in vast numbers, especially on or near the coast. An instance of when it reached pest proportions is

<sup>1</sup>The species is perhaps a casual from Sussex, where it is resident on the coast.

recorded by Harding (*Entomologist*, 3: 348), who states that at Deal in August 1867, the larvae were so abundant, that they completely destroyed crops of cabbages, celery, etc., in gardens. In the autumn of 1938, the moth occurred in prodigious numbers at sugar at Dungeness. Thus, on one night between August 30 and September 30, there were some 7,500 moths on the posts, of which about 5000 were *segetum*, and the number of moths noted on August 30, was 3,700, of which 800 were this species (A. M. Morley); de Worms (*Entomologist*, 72: 262) records that on September 4, there were at least 10,000 moths there, mostly *segetum*, *A. epsilon* Hufn. and *Peridroma porphyrea* Schiff. It is also on record that *segetum* appeared in thousands on September 14, 1938, on the cliffs at Dover (B. Embry, per Dannreuther, *Entomologist*, 72: 14)<sup>1</sup>.

Occasionally the moth has been noted very late in the season. In 1954 and 1956, it continued on the wing to the beginning of November, and in 1955, one occurred at m.v. at Wye as late as November 21 (W. L. Rudland). An exceptionally early date, is of a fresh ♂ taken by me at sallow bloom, at Farnborough, March 18, 1950 (C.-H.).

I have occasionally unearthed the pupa in the spring, from the herbaceous border in my garden at West Wickham, and bred the moth (C.-H.); from three pupae dug in his garden at Folkestone, May 17, 1943; May 9, 1945; May 8, 1950; A. M. Morley reared the moths in June of those years, and A. R. Kidner (*Diary*) records the following in his garden at Sidcup: two pupae, August 1917; single larvae, May 6, 1918; September 6, 1920; pupa, May 31, 1930; several pupae and larvae, September 1935—May 1936. There is very little information on record, however, of the foodplants in nature of this species, though its pabula must be very varied. H. C. Huggins has bred the moth from a larva found in Kent, feeding on cabbage roots; and there is Harding's record above, of larvae destroying crops of cabbages and celery.

VARIATION.—*Abs. monileus* Haw., *subatratus* Haw., and *fuscosa* Esp., form the majority of Kent examples in my experience; but I have only one that appears to accord with the nymotype, a ♂, taken Ham Street, September 9, 1949; Tutt (*Br. Noct.*, 2: 11) records ab. *catenatus* Haw., from Deal, and I have a ♂ of this from Sandwich, taken September 25, 1938 (C.-H.).

A. M. Morley (*in litt.*) writing on the variation in this species, says: "I have a good many labelled as varieties according to Tutt, and these were seen by Cockayne, who agreed with the naming". The following abs., all taken, Dungeness, 1938, unless otherwise stated, are among those he lists:—*pectinatus* Haw., ♂, Folkestone; *venosus* Haw., 2 ♀♀; *catenatus* Haw., ♂, New Inn Green, 1928, 5 ♂♂; *segetis* Hübn., 2 ♂♂; *monileus* Haw.; *fuscosa* Esp., *caliginosa* Esp., 8 ♀♀; *subatratus* Haw.; and among unnamed abs., three ♂♂, with "a dark border to each forewing"; and a ♀, al. expanse 46 mm. Also, a striking ab., *infuscofasciata* C.-H., of which the holotype ♂ was taken, Dungeness, 1938, and exhibited (Morley, *Proc. S. Lond. ent. nat. Hist Soc.*, 1938-39: 27, plt. 2, fig. 3).

FIRST (PUBLISHED) RECORD, 1860: "Noctua (*Agrotis*) *segetum* . . . I have

<sup>1</sup>The appearance of vast numbers of *segetum* on the East Kent coast during the autumn of 1938, suggests an enormous invasion, particularly as they were accompanied by many undoubted immigrants. The moth is classed as a migrant by Williams *et al.* (1942).

taken it on the sand-hills near Sandwich in the middle of October" (Curtis, *Farm Insects*, 121). But the species was doubtless first noticed in the county long before.

#### A. *vestigialis* Hufn.: Archer's Dart.

Native. Coastal sandhills, casually elsewhere; foodplant unknown.

The moth appears to be single brooded, with an extended emergence from June to September, reaching its optimum about August 20.

1. West Wickham, one, at light, August 6, 1957 (R. Birchenough).

4. Deal-Sandwich sandhills.—1848, at sugar (Stevens, *Zoologist*, 2331); exhibited by H. J. Harding, at Society of British Entomologists, September 6, 1853 (*Zoologist*, 4071); 1856 (Harding, *Ent. week. Int.*, 1: 163, 187); common, 1858 (idem, *Ent. week. Int.*, 4: 197); August 1902; with *Euxoa tritici* by far the most plentiful here (Browne, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1903: 41); 1906 (idem, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1906-07: 86); abundant (V.C.H. (1908)). Deal, four at sugar, September 4, 1930, fifty at sugar, 1932; Sandwich, twenty at sugar, 1933 (A. M. Morley); Sandwich, June 27, 1936, with noticeable increase in numbers in August and improvement in condition (A. J. L. Bowes, *Diary*); usually numerous at sugar, light, and at marram grass, by St. George's Golf Course; fairly plentiful, July 25, two, September 25, 1938; June 30, 1939; about eighty, many freshly emerged, August 25, 1950 (C.-H.); appears about June 10 (E. & Y. (1949)).

8. Folkestone\* (Ulyett (1880)).

9. Ramsgate, ♂, in garden, August 23, 1948 (A. H. Lanfear).

15. Littlestone, August 9, 1919, August 12-14, 1922 (Gillett, *Diary*); 1930 (Morley (1931)); many, July 26, August 5, one, August 18, 1936 (A. M. Morley); four, at marram grass, June 29, 1956 (C.-H.). Greatstone, one, July 7, 1933, one, August 5, 1935 (A. M. Morley); several, August 3, 4, 6, 1948 (P. le Masurier); 1957 (S. Wakely); one, August 1960 (D. Youngs); a larva excavated from sandhills, May 25, 1963 (C.-H.).

16. Sandgate, one, 1961 (N. Reay-Jones).

VARIATION.—My series of some seventy Sandwich examples may be classified as follows, though the colour forms intergrade so closely, that allocation of aberrational names can in many cases be only approximate: *sagittifera* Haw., with considerable variation *inter se*, by far the commonest form; *brunnea-obsoleta* Tutt, three; *olivacea* Hartig, four; *valligera* Bork., three; *pseudochreteni* Heydm., one; *lineolata* Tutt, two; *juncta* Lempke, five; *pseudovalligera* Turner, one; *angustipennis* Bart., two; nymotypical *vestigialis* Hufn. is apparently scarce, and I have only one, a ♂ (C.-H.).

The following abs. are in R.C.K.:—*indistincta* Cockayne, holotype ♂, Sandwich, 1936; *sagittiferus* Haw., Deal, several; *valligera* Schiff., Sandwich, eight; *brunnea-obsoleta* Tutt, Deal; also, three, Sandwich, 1936, referable to nymotypical *vestigialis* Hufn.

Tutt (*Br. Noct.*, 2: 18) includes the following abs. from Kent:—*signata* Bdv.; *clavis* Esp., very rare; *valligera* Bork.; *lineolata* Tutt.

FIRST RECORD, 1848: Deal (Stevens, *Zoologist*, 2331).

#### [A. *crassa* Hübn.: Great Dart.

Doubtfully Kentish.

The specimen alleged to have been taken in 1873 is considered doubtfully genuine; and the other records were probably based on misidentification.

1. Plumstead (Courtney, *Entomologist*, 1: 227). Lewisham, 1845 (Stainton, *Zoologist*, 1194). Note: Stainton omitted the species from his *Manual*.

8. Near Dover.—One, in Horne coll. sale, February 20, 1923, catalogued as “*crassa*, near Dover, 1873” (Adkin, *Entomologist*, 56: 95) (one, in S. Stevens's coll., “received among a lot of common species taken at Dover” (Barrett, *Br. Lep.*, 3: 287), may refer to this specimen.)]

**A. clavis** Hufn. (*corticea* Schiff.): Heart and Club.

Native. Coastal sandhills, downs, chalky places, etc.; foodplant unknown. Recorded from all divisions, but with seemingly a preference for light soils. Frequent in 1, 5, 6, 7, 8, 12, 16; fewer records for 2, 3, 6a, 9, 11, 13-15; plentiful on the blown sand of 4.

Bexley, September 18, 1898 (Carr, *Entomologist*, 31: 295), appears to be a case of a partial second generation, the only instance of this to our knowledge.

2. Gravesend (Miller & Jones, *Ent. mon. Mag.*, 6: 114). Sheppeney, common at sugar, 1872 (Walker, *Ent. mon. Mag.*, 9: 163). Higham (H. C. Huggins). Sittingbourne, two, 1949 (C.-H.).

3. Reculver, July 21, 1935 (A. J. L. Bowes). Herne Bay, a few (D. G. Marsh). Whitstable (P. F. Harris). Tankerton, 1951 (J. L. Atkinson). Broad Oak, one, 1952 (C.-H.).

6a. Chatterden (Chaney (1884-87)); c. 1902 (H. C. Huggins).

9. Ramsgate, one (J. W. C. Hunt). Margate, three on lamps, June 20, 1919 (H. G. Gomm, *Diary*). Minster, one, June 17, 1920 (H. G. Gomm, *Diary*); three, 1951 (W. D. Bowden).

10. Brasted (R. M. Prideaux). Sevenoaks (Gillett, *Entomologist*, 53: 23; *idem, Entomologist*, 55: 278); at sugar and light (F. D. Greenwood).

11. Hever (Meade-Waldo, *Entomologist*, 48: 225). Edenbridge, at sugar and light, 1930 (F. D. Greenwood). Aylesford (G. A. N. Davis). Sevenoaks Weald, three, at m.v., June 18-July 21, 1960 (E. A. Sadler).

13. Tunbridge Wells (E. D. Morgan); 1956-59, fairly common (C. A. Stace). Goudhurst, common (W. V. D. Bolt, *personal communication*, 1961).

14. Tenterden (Stainton, *Man.*) Sandhurst (G. V. Bull). Hawkurst (B. G. Chatfield). Iden Green (H. Boxall).

15. Greatstone, one, July 3, 1936 (A. M. Morley). Dymchurch (Wakely, *Ent. Rec.*, 65: 43).

**VARIATION.**—So far as I can judge, my series of some 100 specimens from Sandwich includes the following abs.:—*brunnea* Tutt, *brunnea-suffusa* Tutt, and *irrorata-fusca* Tutt, are numerous; *irrorata-pallida* Tutt, *obscura* Freyer, *mulleri* Hanel, *subfuscus* Haw., and *transversa* Tutt, have occurred to me severally; *orbiculella-brunnea* Strand-Tutt, *strigosa* Strand, *virgata-pallida* Tutt, *nigra* Tutt, and *obsoleta-fusca* Tutt, are all single specimens. Also, one only of the nymotype, *clavis* Hufn. (C.-H.).

Tutt (*Br. Noct.*, 2: 62) records ab. *clavigerus* Haw., and ab. *virgata-pallida* Tutt, both from Deal; and Meade-Waldo (*Entomologist*, 48: 225) describes ab. *obsoleta*, ♂ holotype, taken Hever, July 5, 1915.

The following abs. are in R.C.K.:—*obsoleta-fusca* Tutt, Sandwich, 1938; *sincerii* Frr., Sevenoaks, one, June 23, 1922 (Gillett, *Entomologist*, 55: 278); *irrorata-fusca* Tutt, Ashford, 1935; *virgata-fusca* Tutt, Sandwich, 1938.

**FIRST RECORD**, 1809: “Habitat in Catio rarissime. Exemplarium unicum solum vidi” (Haworth, *Lep. Brit.*, 2: 222).

**A. denticulatus Haw. (*cinerea* auct.): Light Feathered Rustic.**

Native. Chalk downs, shingle beach, casually elsewhere; foodplant unknown.

1. Dartford Heath, ♂, on fence (1875), taken by A. B. Farn (Fenn, *Diary*). Petts Wood, two, 1948 (E. Evans). Farningham Wood, two worn specimens, June 26, 1959 (R. G. Chatelain).

5. Chevening, May 17-18; June 1, 1912; May 29-30, June 4, 1913; May 16, 18-20, 22, 24, 29, 31, 1914, all in light trap; June 18, 1916, ♀ on valerian (Gillett, *Diary*). Westerham (R. C. Edwards).

6. Greenhithe\* (Farn MS.). Sevenoaks\* (Barrett, *Br. Lep.*, **3**: 301). Otford (Adkin, *Proc. S. Lond. ent nat. Hist. Soc.*, 1902: 50). Gravesend, two, at street lamps; Near Clay Lane Wood; Eynsford; Luddesdown (H. C. Huggins). Shoreham (Crewdson, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1933-34: 48). Pinden, not uncommon (E. J. Hare, *personal communication*, April 1956). Meopham, one, May 28, 1960 (J. Ellerton).

6a. Near Darenth (see *First Record*). Occasionally on a heathy common north of Darenth Wood, flying by day (Stephens, *Haust.*, **2**: 128). Darenth Wood (E. J. Hare).

7. Hambley Hill, one, 1873, by J. J. Walker (Chaney (1884-87)). Boxley, one, 1904, one, 1905 (Goodwin coll.); 1953 (A. H. Harbottle). Hollingbourne (H. C. Huggins). Westwell, two, May 22; ten, May 27, 1933 (A. M. Morley) (Scott (1936)). Broad Street, two, May 28, 1955 (E. Philp).

8. Folkestone.—Warren, ♀, 1868 (Knaggs, *Ent. mon. Mag.*, **5**: 78); a series, 1897 (Woodforde, *Entomologist*, **58**: 179); Warren, one taken by A. G. Riddell, June 1, 1936 (A. M. Morley). Dover.—Diggles, 1888 (Webb (1891)); St. Radigunds Wood, ♂, June 9, 1908; downs above Maxton, ♂, June 4, 1909 (Cardew, *Diary*); Whinless Down; Poulton Valley; Kingsdown; Bettleshanger (E. & Y. (1949)); one, June 8, 1951; one, May 17, 1956, both at m.v. in the town (G. H. Youden). Tilmanstone, ♂, at car lights, June 9, 1934 (A. M. Morley). Wye (V.C.H. (1908)); common at light, June 2, 1935. forty, May 29, 1936 (Bowes, *Diary*); Crown chalkpit, five, June 5; three, June 9, 1939; three worn specimens, May 28, 1949; about seventy ♂♂, at two Coleman lamps, May 30-31, 1953 (C.-H.). Stowting; Brook (C. A. W. Duffield).

10. Sevenoaks, May 28, 1920 (Gillett, *Diary*).

11. Aylesford, c. 1953 (G. A. N. Davis).

12. Long Rope Wood, ♂, at m.v. June 3, 1950 (C.-H.). Chartham, c. 1955 (P. B. Wacher). Wye, nine, May 20-June 3, 1953; five May 12-June 12, 1954; one, May 25, 1956 (W. L. Rudland). Willesborough, one, June 1960 (D. Youngs).

13. Tunbridge Wells district\*, 1898 (Phipps, *Entomologist*, **31**: 267); one or two only (R. H. Rattray, in Knipe (1916)). Southborough (Given (1946)).

15. "New Romsey" [New Romney] (1896, Barrett, *Br. Lep.*, **3**: 301). Dungeness, three ♂♂, June 4; one, June 8, 1932; one, June 3, 1947; all at sugar; three, including one ♀ at light, June 1938 (A. M. Morley) (the moth is apparently seldom noted at sugar, and these are the only instances of this known to me (C.-H.)); common, June 11, 1932 (J. H. B. Lowe); ♀, on

post, few at light, June 2, 1935 (Bowes, *Diary*); many pupae by digging under moss, May 1937, from which a fine series was bred, including many ♀♀ (D. G. Marsh); seven pupae by digging under moss, May 18, 1946 (D. G. Marsh and C.-H.); May 18, 1952, imagines plentiful at dusk on railway posts, 9 ♀♀, 24 ♂♂, at light (de Worms, *Entomologist*, 85: 185); May 25 (5), then noted nightly May 27-June 29, 1962 (excepting June 21, when no m.v.), with maximum (218) in my m.v. trap on June 12 (R. E. Scott). Lydd-on-Sea, a few at m.v., 1958 (S. Wakely).

16. Folkestone Town, two, May 31, 1951, by A. G. Riddell; 5 ♂♂, 1 ♀, May 11-June 11, 1952; 16 ♂♂, May 14-June 10, 1953; one, May 29, 1956; all at m.v. (A. M. Morley).

VARIATION.—Kentish (Wye and Dungeness) specimens are appreciably finer than the small, narrow-winged f. *tephrina* Stgr. from Sussex, Dorset, etc. Dungeness ♂♂ have the ground colour predominantly pale bluish-grey, but in those from Wye, this is normally brownish-grey. I have no specimens from elsewhere in Kent, but suggest that a comparison of series from other localities in the county would prove interesting, not forgetting that the neighbourhood of Darenth is the type locality of *denticulatus* Haw. (C.-H.). De Worms (*Entomologist*, 66: 50) states that some fifty moths taken at Dungeness, June 11, 1932, ranged from "almost white through various shades of grey to nearly black"; and the same observer (*ibid.*, 85: 185) records that of 24 ♂♂ and 9 ♀♀, taken there May 18, 1952, whereas the "prevailing hue of the males was a dove grey, only two females were of this colour, the rest varying from dusky brown to one which was quite black with the cross lines only barely visible". De Worms (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1958: 45) also records taking "an intense black female", at Wye, May 31, 1958. A. M. Morley (*in litt.*) mentions two ♂♂ from Dungeness in his coll., "very pale with the central band pink"; also, a ♀, taken there June 18, 1938, having "a sort of crescent mark indicative of the usually absent orbicular".

In R.C.K., are ab. *pallida* Tutt, Dungeness, two, 1938, Lydd, one; and ab. *cinerea* Hübn., Dungeness, 1938.

FIRST RECORD, 1803: "In com. Cantio prope Darn nuperrime capta, et mihi donata amicissimo meo J. Hatchett" (Haworth, *Lep. Brit.*, 1: 133). This is also the original type reference to *denticulatus* Haw.

#### **A. puta** Hübn. (*radius* Haw.): Shuttle-shaped Dart.

Native. Cultivated and waste places; foodplant unknown. Fairly frequent, and found in all divisions. "Generally common" (V.C.H. (1908)).

The moth occurs at sugar, at light, and at rest on fences, from about mid May to early June, and as a second brood from late June or July throughout August to early September, with apparently, in some years, a third generation in October. Thus, at Folkestone (div. 16) in 1951, A. M. Morley noted 105, from April 26-June 7, with maximum 5 ♂♂ 5 ♀♀ on May 25, then 225, from June 26-August 30, with maximum 6 ♂♂ 6 ♀♀ on August 6, and one (♀) on October 28; 1953 was much the same, with first appearance April 28, and last October 21; in 1961, a ♂ appeared October 12; the same observer also records taking one in 1933, on ivy at Denton (div. 8) as late as October 31. In 1959, J. Ellerton first noted it at Meopham (div. 6) on May 10, then on July 26, and lastly on October 17, therefore clearly indicating three generations that year..

In April 1950, I dug two pupae in my garden at West Wickham, and reared the moths the following May (C.-H.); and A. R. Kidner (*Diary*)

records larvae dug up in his garden at Sidcup, November 20, 1921 (1), June 29 (2), September 2 (2), October 7 (1), 1922. In 1929, A. M. Morley dug up a pupa from under an elm by the Hythe canal on February 2, from which the moth emerged August 10, thus missing out the first brood.

VARIATION.—Tutt (*Br. Noct.*, **2**: 72-75) records the following abs.:—*renitens* Hübn., Deal; *radius* Haw., Shooters Hill, Greenwich; *lignosa* Godt., Deal; *obscura* Tutt, Deal. Nymotypical *puta* Hübn. appears to be very scarce; Tutt (*loc. cit.*) had only one, from Deal. My series from Sandwich consists of abs. *renitens* and *lignosa*, also several ab. *nigra* Tutt; I have ab. *radius* from Broad Oak, and West Wickham, but this ab. does not seem to occur on the coast at Deal or Sandwich (C.-H.).

The following are in R.C.K.:—♂ abs. *radiola* Steph., Sandwich, Lydd; *lignosa* Godt., Ashford, 1938. ♀ abs. *nigra* Tutt, Ashford, Dungeness, Sandwich; *juncta* Berio, Sandwich, 1936; *erythroxylea* Tr., Deal, 1898.

Cardew (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1910-11: 96; *Entomologist*, **41**: 229) records that he took a halved gynandromorph, left side ♂, Deal, August 24, 1908; which specimen is now in R.C.K. Another halved gynandromorph, right side ♂, was taken by P. Cue at m.v., in his garden at Ashford, September 12, 1962.

FIRST RECORD, 1847: Lewisham (Stainton, *Zoologist*, 1790).

[(*A. trux* Hübn. ssp. *lunigera* Steph.: Crescent Dart.

Apparently recorded in error.

Tutt (*Entomologist*, **18**: 95) recorded that (in August 1884) he was "fortunate in securing a fine male specimen of *A. lunigera*, which I believe is new to the Deal district". Later, however, (in *Br. Noct.*, **2**: 16), he indicated that this specimen was a form of *A. segetum*].

#### ***A. exclamationis* L.: Heart and Dart.**

Native. Cultivated and waste places; on *Poa annua*. Found in all divisions, and probably the most consistently numerous of all the macro-lepidoptera. "Generally abundant" (V.C.H. (1908)).

In favourable seasons there seems to be a partial second generation, e.g., Sheppen, one at ivy, October 10, 1868 (J. J. Walker MS.); Tonbridge district, August-September 1911 (Buxton, *Entomologist*, **44**: 407); Sidcup, September 1911 (Kidner, *Entomologist*, **44**: 49); Sandhurst, October 16, 1928 (Bull, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1928-29: 85); Folkestone Town, fifty-eight, September 3-October 16, 1953, one, September 3, 1954, one, September 12, 1955 (A. M. Morley); Wye, one, September 18, 1955, Willesborough, six, September 3-9, 1955 (W. L. Rudland); Ham Street, one, September 22, 1957 (R. F. Bretherton); Sevenoaks Weald. August 30, September 28, 1959 (E. A. Sadler).

Very occasionally the imago has been noted flying naturally by day. Thus, one was seen at High Halstow, flying by day, June 13, 1959 (A. A. Allen); and at West Blean Wood, June 17, 1952, I observed a worn ♂ flying in the late afternoon sun and imbibing at bramble blossom (C.-H.).

A remarkable spate of this insect at light was recorded by de Worms (*Ent. Rec.*, **72**: 246), who states that at Ham Street Village, on June 24, 1960, he estimated a total of 3000 moths in his m.v. trap, of which some 2400 were *exclamationis*.

H. C. Huggins has bred the moth from a larva which he found in Kent feeding on *P. annua*; it is deserving of notice, however, that although *exclamationis* is so numerous, and undoubtedly feeds naturally on a variety

of plants, this is the only one it is possible to cite.

VARIATION.—I find that the nymotype, together with *abs. rufescens* Tutt and *brunnea* Tutt form the majority of *exclamationis* on the sandhills at Sandwich, but that *abs. picea* Haw. and *plaga* Steph. are also fairly numerous there. From the same locality, I have taken single specimens of what appear to be *abs. pallida* Tutt, *brunnea-lineolatus* Tutt, and *conjuncta* Hirschke (C.-H.). A. M. Morley observes that in some years the insect is much more variable than in others, and that this was particularly so at Folkestone in 1962. He mentions amongst other *abs.* several *pallida* Tutt, including "one or two with very strong dark markings"; *costata* Tutt, not scarce, but "a rarer form has the costal area brown or even quite dark"; *rufescens* Tutt, common, with *brunnea* Tutt rather less so; *unicolor* Hübn., one; also, a few specimens with orbicular and reniform joined, but none with all three stigmata joined.

Tutt (*Br. Noct.*, 2: 67) records ab. *plaga* Steph. from Deal, 1888; and ab. *juncta* Tutt from Deal and Greenwich.

The following *abs.* are in R.C.K.:—*serena* Alph., ♂, Sandwich, 1938; *rufescens* Tutt, ♀, Sandwich, 1936; *conjuncta* Hirschke, one, Wye, 1912; *juncta* Tutt, both sexes, Ashford, Wye, Sandwich; *unicolor* Hübn., ♀, Deal, 1888. Also, several nymotypical specimens of both sexes from Sandwich.

FIRST RECORD, 1861: Lee, usually a pest in this neighbourhood, but this year practically absent (Fenn, *Ent. week. Int.*, 10: 197).

#### **A. *ipsilon* Hufn. (*suffusa* Schiff.): Dark Swordgrass.**

Suspected resident reinforced by immigration<sup>1</sup>. Waste places, etc.; foodplant unknown. Recorded from all divisions, except 10 (almost certainly occurs). "Generally common" (V.C.H. (1908)).

The figures for *ipsilon*, particularly those shown by A. M. Morley's careful recording of the species for East Kent over the past 35 years, well support the view that its numbers depend on immigration. The first brood is about as uncommon as that of *Vanessa cardui*, and the moth is most numerous in the autumn and near the sea. It is also liable to considerable numerical change from year to year, and occasionally occurs in enormous numbers, accompanied by many undoubtedly immigrants.

Its appearance in spring and summer usually consists of odd examples in May, June, July, with an occasional specimen in late March and April. In 1862, Cortissos took one at sallow bloom at Lewisham about March 10—an abnormally early appearance (Fenn, *Diary*, 13.3.1862). In 1956, at Wye, W. L. Rudland first observed it on March 29 (1), then from May 22-30 (6), and again from July 9 onwards, last noting it on December 4, an extraordinarily late date.

In some years it has occurred in considerable abundance, as for example at Dungeness, on September 4, 1938, together with *P. porphyrea* and *A. segetum* (q.v.) (de Worms, *Entomologist*, 72: 262); on September 9, 1946 (C.-H.); on August 1, 1950, when 300-400 were noted at sugar (A. M. Morley); and at Sandwich, in 1951, when it "swarmed there about mid September" (R. A. Jackson, *fide* A. M. Morley).

The moth is most often noted at sugar, less frequently at light, and only occasionally at ivy and reed blossom. Like many *noctuae*, however, it is seldom observed by day, and the only record of this to hand, is of one noted by A. M. Morley as having been found on a fence in the Folkestone area on October 21, 1928. There does not appear to be a single instance on record of the finding of any of the early stages in nature.

VARIATION.—There is considerable variation among Kentish specimens, and my series includes single ♂ examples of what appear to be *abs. clara* Lempke and *obscura* Lenz, from Ham Street and Sandwich respectively; also, several that are apparently referable to *ab. rufa* Lempke, of both sexes and from various localities. Nymotypical *ipsilon* Hufn. seems to be the commonest form in Kent (C.-H.).

Tutt (*Br. Noct.*, **2**: 9) records *ab. annexa* Steph., from Deal; and one exhibited by Morley (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1934-35: 50) may be referable to this.

The following *abs.* are in R.C.K.:—♀ *abs. fusca* Dannehl, several, Dungeness; *obscura* Lenz, one, Dungeness, 1935; *nigrostriata* Cockayne, holotype, N. Kent. 1926 (*Ent. Rec.*, **66**: 65); *pallida* Tutt, two.

FIRST RECORD, 1829: Birch Wood, Darenth Wood; occasionally (Stephens, *Haust.*, **2**: 117).

<sup>1</sup>Classed as a migrant by Williams *et al.* (1949).

#### **A. ripae** Hübn.: Sand Dart.

Resident, perhaps native. Coastal sandhills; on *Salsola kali*, *Cakile maritima*, *Eryngium maritimum*.

It is noteworthy that *ripare* remained unnoticed in Kent until 1891, although the area in which it was discovered had been worked for many years previously. The species is now locally plentiful, but was apparently very scarce up to about 1930.

4. Deal, two, July 4, 1891 (Fenn, *Ent. Rec.*, **2**: 203). Deal, Sandwich; scarce (V.C.H. (1908)). Deal, one on marram, July 5, 1930 (A. M. Morley). Sandwich, common, June 16, 1933, very common, June 5, 1934 (J. H. B. Lowe); estimated 300 seen at dusk, sugar, and light, June 9, 1934, seven larvae dug up under Sea Holly, September 9, 1936, four larvae, August 21, 1938 (A. M. Morley); larvae usually common under any succulent vegetation on sea shore; over 100 larvae excavated, September 1934, 1935, by gentle raking over the sand under succulent vegetation; in 1937, 1938, high tides washed the plants away, and the larvae retreated inland; imagines, June 16, 1934, June 22, 1935, June 22, 27, 1936 (A. J. L. Bowes); commonest insect at dusk and light, June 14, 1934 (de Worms, *Entomologist*, **68**: 101); usually common at marram, light, and sugar the seaward side of St. Georges Golf Course; June 30, 1939; about 100, many freshly emerged and *in cop.* on marram stems, June 19, 1954; about thirty, June 24, 1956 (C.-H.); three, June 1, 1954 (W. D. Bowden); several at sugar, early July 1963 (B. K. West).

15. Littlestone, larva, 1926 (H. C. Huggins) (W. A. Cope); one, 1953 (P. Cue). Jesson, one, June 7, 1933 (A. M. Morley). Dungeness, at sugar, June 23, 1935 (A. J. L. Bowes). Greatstone, three at marram, July 1936 (A. M. Morley); several larvae on *Salsola kali*, September 22, 1955 (E. C. Pelham-Clinton); July 5, 1949 (R. F. Birchenough); larvae on Sea Rocket, September 23, 1962 (de Worms, *Entomologist*, **96**: 58). Lydd-on-Sea, June 16, 1957 (T. G. Edwards).

VARIATION.—My series of some eighty examples from Sandwich exhibits much variation, but the specimens are very difficult to classify in accordance with the nomenclature. Briefly, however, they range in the colouration of the forewing from the pale greyish-white to grey-brown; in many there is a distinct bluish-grey shading along the costa and termen; and several are decidedly ochreous, but with no tendency to reddish so

characteristic of some of the western forms. A recurrent but apparently un-named ab., with the ground generally somewhat paler than in the nymotype, has a conspicuous dark subterminal band about 2 mm. wide extending from costa to dorsum, and is represented in my coll. by 6 ♂♂; another ♂ of this ab., also from Sandwich, is in A. M. Morley coll. (C.-H.).

The following named abs. are in R.C.K.:—*obotritica* Schmidt, Dungeness, one, bred 1938; *grisea* Tutt, Sandwich, one 1936; *albicosta* Tutt, Sandwich, one, 1936; nymotypical *ripae* Hüb., Dungeness, two, Sandwich, one. Also, one rather striking un-named ab., almost markingless, with cream-coloured ground, Dungeness, bred, 1938.

FIRST RECORD, 1891: Deal (Fenn, *Ent. Rec.*, 2: 203).

**Lycophotia varia** Vill. (**strigula** Thunb.): True Lovers' Knot.

Native. Heaths, commons, casually elsewhere; on *Calluna vulgaris*.

1. Near Birch Wood (Stephens, *Haust.*, 3: 19). West Wickham, larvae on heath (Fenn, *Ent. Week, Int.*, 10: 117); 1951, 1953 (E. E. J. Trundell); one at m.v., 1963 (C.-H.). Abbey Wood; Paul's Cray Common; Holwood; Bexley (*Wool. Surv.*, (1909)). Sidcup, one 1911, one 1913; Hayes Common, three larvae, October 8, 1919; larvae plentiful, September 29, 1920 (A. R. Kidner). Petts Wood, one, 1948 (E. Evans). Orpington (L. W. Siggs); one, 1957 (R. G. Chatelain). Greenwich Park; Keston (de Worms, *Lond. Nat.*, 1954: 73). Dartford Heath, several at m.v., August 28, 1954 (C.-H.). Blackheath, one at m.v., 1959 (A. A. Allen). Bromley, eight at m.v., July 7-August 13, 1962 (D. R. M. Long).

3. Thornden Wood, one, July 30, 1865 (Fenn, *Diary*); one, July 12, 1922 (H. G. Gomm); one (P. F. Harris). Church Wood, 1895 (S. Wacher). Herne Bay, one at light, June 1933 (D. G. Marsh, teste A. J. L. Bowes).

5. Chevening, 1914 (Gillett, *Diary*). Chelsfield, 1948 (A. M. Swain).

6. Pinden (E. J. Hare). Meopham, fairly common, 1960-61 (J. Ellerton).

7. Near Stockbury, common (H. C. Huggins). Westwell, June 23, 1948 (E. Scott).

8. St. Margaret's, a small colony on a patch of heather in 1938; Dover (E. & Y. (1949)). Dover, one in m.v. trap, July 10, 1954 (G. H. Youden).

9. Minister, ♂, July 12, 1915 (H. G. Gomm).

10. Brasted (Adkin, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1901: 22); June 16, 1913 (Gillett, *Diary*). Sevenoaks, 1920 (Gillett, *Diary*); at light, 1946, 1949-51 (F. D. Greenwood). Westerham, larvae (Eagles, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1932-33: 102). Seal Chart, one at m.v., July 3, 1954 (C.-H.).

11. Yalding; Wateringbury (V.C.H. (1908)). Mereworth Wood, 1912 (Gillett, *Diary*). Benenden; Hoads Wood (G. V. Bull). Aylesford (G. A. N. Davis). Sevenoaks Weald, one, August 2, 1960 (E. A. Sadler).

12. Ham Street, 1934, 1939 (A. J. L. Bowes); four larvae at night on heather, April 30, 1937 (A. M. Morley); imagines fairly plentiful in Burnt Oak Wood, July 29, 1946 (C.-H.); Orlestone Woods, June 2, July 28, 1956 (R. F. Bretherton). Hothfield (Scott (1936)). Ashford Town, one, 1954, and odd ones almost annually (P. Cue). Charlham, several (P. B. Wacher). Willesborough, two, 1954, one 1955; Wye, three, 1954, three 1955, one, 1956 (W. L. Rudland). Willesborough, three at m.v., 1961; West Ashford, two, 1961 (M. Singleton, M. Enfield and D. Youngs).

13. Tunbridge Wells (Cox, *Entomologist*, 4 (62), ii); larvae common (H. E. Hammond); 1956-58, occasional (L. N. Tesch); "flying in daytime", 1957

(C. A. Stace). Goudhurst, common at light (W. V. D. Bolt, *personal communication*, 1961).

14. Tenterden (Stainton, *Man.*, 1: 227). Hawkhurst, two at light, c.1950 (B. G. Chatfield). Iden Green, one 1950, two, 1951 (H. Boxall).

15. Dungeness, July 27, 1956 (R. F. Bretherton); two, 1962 (R. E. Scott). Lydd-on-Sea (Edwards and Wakely, *Ent. Rec.*, 70: 93).

16. Folkestone Town, one at m.v., July 27, 1951 (Morley, *Trans. Folkestone nat. Hist. Soc.*, 1950-52: 12); one at m.v., July 30, 1955 (A. M. Morley). Sandgate, one, 1961 (N. Reay-Jones).

**VARIATION.**—In R.C.K. is ab. *reducta* Lempke, one, Ham Street, August 20, 1939.

FIRST RECORD, 1829: Near Birch Wood (Stephens, *loc. cit.*).

#### **Actebia praecox** L.: Portland Moth.

Resident. Coastal sandhills; foodplant unknown. Very local.

[1. West Wickham, at sugar, 1891 (Wells, *Ent. Rec.*, 3: 35); J. W. Tutt queried the correctness of this record at the time, but no further communication appeared.]

4. Deal neighbourhood, July 1858 (Baldwin, *Ent. week. Int.*, 4: 134).

15. Greatstone, three taken at m.v. by G. B. Bransby in 1955, one, August 13, one, August 15, ♂, August 17 (G. B. Bransby, *in litt.*). Having for some time suspected it might be resident in Kent, on May 25, 1963, we excavated suitable sandy spots within a hundred or so yards of the place of Bransby's captures, and although none was found in this manner, soon after dark G. Haggett located a single larva crawling over *Galium verum*, from which I bred a ♂, July 6 (C.-H.).

16. Folkestone Town, ♂ in m.v. trap, August 12, 1955 (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1955: 37). Doubtless casual, possibly from Greatstone (C.-H.).

FIRST RECORD, 1858: Deal neighbourhood (Baldwin, *Ent. week. Int.*, 4: 134).

#### **Peridroma porphyrea** Schiff. (**saucia** Hübn.): Pearly Underwing.

Probable immigrant. Waste places, etc. Recorded from all divisions.

This species was regarded as generally fairly scarce during the 19th century, but has become noticeably more frequent since, though its numbers vary considerably from year to year, and there is no record to knowledge of the discovery of the larva in nature.

The imago appears mainly in the autumn, and is then sometimes numerous, particularly on or near the coast. In 1867-69, according to Barrett (*Br. Lep.*, 3: 374), it was "in hundreds" at Deal, but this appears to be the only record prior to the 1930's of its having been at all abundant. In 1938, it appeared in phenomenal numbers at Dungeness; occurring there in great abundance at sugar on September 4, together with *Agrotis segetum* (q.v.) and *A. epsilon* (q.v.) (de Worms, *Entomologist*, 72: 262); and was noted in hundreds at sugar on several dates between September 1 and October 15 (A. M. Morley). At Sandwich, in 1950, I estimated there were some 500 *porphyrea* on August 26 on about 150 sugared posts, together with *Agrotis epsilon* (q.v.), which though still fairly numerous, was evidently much less so than when A. M. Morley was there on August 1 (C.-H.).

The moth is sometimes seen at ivy and flowers of reeds, and occasion-

ally occurs not uncommonly at light, particularly m.v. W. L. Rudland recorded that in 1955 there were ninety-one *porphyrea* in his trap at Wye between August 23 and October 24, an exceptionally large number for an inland locality, and that single specimens appeared there that year on June 22 and November 17.

Only occasionally is the moth noted in May, June, or July, and then nearly always as single examples. An abnormally early occurrence is of one that was taken at sallow bloom at Keston (div. 1), apparently in March 1896 (Fuller, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1896: 11). Even more remarkable is that of four specimens noted at Wye, December 2-5, 1956, and another there on January 9, 1957, all by W. L. Rudland at m.v.

A pupa found in a garden at Willesborough by D. Youngs, from which the imago emerged in 1957, is the only instance on record of any of the early stages in nature, though unfortunately the exact dates were not recorded.

**VARIATION.**—The some eighty specimens in my coll. taken at Sandwich in 1950 appear to consist mainly of ab. *brunnea* Tutt and more or less typical *porphyrea* Schiff., but in each case with considerable variation *inter se*. Also included in this series are twenty examples conforming in various degrees to ab. *nigrocosta* Tutt; and ab. *majuscula* Haw., which Tutt (*Br. Noct.*, 2: 4) said he had not seen, is represented by three specimens (C.-H.).

Morley (*Entomologist*, 72: 262) records that ab. *nigrocosta* Tutt was numerous at Dungeness on September 4, 1938. The same recorder notes (*in litt.*) that so far as he can judge the following abs. from Kent are represented in his coll.: *margaritosa* Haw., Dungeness, six; *brunnea* Tutt, three; *ochreacosta* Tutt, ten; *nigrocosta* Tutt, Dungeness, six, Folkestone Warren, one, Ham Street, one; *majuscula* Haw., Dungeness, three.

The following abs. are in R.C.K.:—*ochreacosta* Tutt, Sandwich and Lydd; *rufa* Tutt, Hythe, October 26, 1902; *nigrocosta* Tutt, several, Sandwich and Lydd; *majuscula* Haw., Lydd, one, Sandwich, five.

**FIRST RECORD,** 1842: "Kent" (Bentley, *Entomologist*, 1: 373).

#### **Ammogrotis lucerneae** L.: Northern Rustic.

Native. Chalk sea-cliffs and undercliff; foodplant unknown.

- 4. Sandwich (V.C.H. (1908)); probably casual (C.-H.).
- 8. Deal.—Deal coast (1852), specimens exhibited by H. J. Harding at Society of British Entomologists on November 19, 1852 (*Zoologist*, 3720); several in 1858 (Baldwin *et al.*, *Ent. week. Int.*, 4: 134, 141, 146); July 3-20, 1859 (Harding, *Ent. week. Int.*, 6: 141); 1860 (Harding, *Ent. week. Int.*, 8: 155). Dover.—one, August 1846, in A. Greenwood coll. (Raynor, *Ent. Rec.*, 25: 73); one, taken by S. Stevens, end August 1849 (Grant, *Zoologist*, 2533). Folkestone.—♀, taken between July 24 and August 1, 1858 (H. Tompkins MS.); one, 1858, taken by S. Cooper (Cooper, *Zoologist*, 6213); at flowers of *Teucrium*, etc. (Knaggs (1870)); Warren (Ulyett (1880)); Warren, ♂ at light, July 13, 1928, ♂ at dusk, flying over *Ononis*, July 21, 1929, ♀ at dusk, July 24, 1931, three at light, July 1, 1933, ♂ at light, July 22, 1935, six, of which three ♀♀ at *Teucrium*, July 22, 1936, two ♂♂ at light, July 17 1937, one in fresh condition on a sallow leaf, August 15, 1945, one at light by R. Fairclough, July 30, 1946 (A. M. Morley); July 11, 1934, fairly common, July 13, 1935 (J. H. B. Lowe); three ♂♂ at flowers of *Teucrium scorodonia*, July 11, 1939, by the cliff path leading from Capel into the Warren (C.-H.).

VARIATION.—“My 11 specimens vary little in markings which are evidently those of the type, but their ground colour is not constant, two males and two females are rather pale and one ♂ and one ♀ are rather dark; one ♂ and one ♀ have a slightly ochreous tinge” (A. M. Morley, *in litt.*).

FIRST RECORD, 1846: Dover, A. Greenwood coll. (Raynor, *loc. cit.*).

[(**Rhyacia simulans** Hufn. (**pyrophila** Schiff.): Dotted Rustic.

Records almost certainly based upon misidentification.

10. Sevenoaks, one, July 20, 1919 (Gillett, *Entomologist*, 53: 23). Note: Gillett also entered the species five times in his *Diary* as having been taken by him at Chevening (div. 5), in 1912-14, but it appears he confused it with *Graphiphora augur* F., and his coll. contains no *simulans*.

The inclusion of this species in Stephen-Jones (*Rep. St. Edmund's School Canterbury nat. Hist. Soc.*, 1945-49: 23), is erroneous (A. G. Mackonochie.)]

**Spaelotis ravida** Schiff. (**obscura** Brahm): Stout Dart.

Probable resident. Marsh sides, waste places, etc.

It will be noted that the moth has chiefly occurred on or near the coast of north and north-west Kent, and is of very uncertain appearance. The records suggest that it may be casual in East Kent.

1. Grove Park, August 3, 1948 (Hyatt, *in de Worms, Lond. Nat.*, 1954: 74). Orpington, one at m.v., August 31, 1957 (R. G. Chatelain).

2. Near Sheerness, 1871, rather commonly beaten from thatch (Walker, *Ent. mon. Mag.*, 8: 185). Sheppey, 1872, rather common, by beating thatch, also occasionally at sugar (Walker, *Ent. mon. Mag.*, 9: 163). “Isle of Sheppey”, one so labelled in J. J. Walker coll., at Hope Dept., Oxford (C.-H.). Sheerness, 1875, exhibited by J. Platt Barrett at S. London Ent. Nat. Hist. Soc., November 4, 1875 (*Ent. mon. Mag.*, 12: 166). Chalk, one, 1906 (H. C. Huggins). Greenhithe, fairly common in moth trap, 1897 (A. B. Farn MS.) (V.C.H. (1908)). North Kent\*, two, 1909 (E. Goodwin coll.). Dartford, one at honeydew, July 22, 1950 (B. K. West).

3. Canterbury\*, one, J. Parry, in B.M. coll. (Bretherton, *Ent. Gaz.*, 8: 14).

4. Deal sandhills, one taken at sugar, July 13, 1946, by G. H. Youden (Morley, *Entomologist*, 80: 175; E. & Y. (1949)).

6. Northfleet\*, one at sugar, August 1848 (Hodgekinson, *Zoologist*, 2328). Pinden, one in a black-out blind, August 23, 1942, one at sugar, August 5, 1945, one at sugar, July 30, 1946, three at sugar, July 4, 23, September 8, 1949 (E. J. Hare).

6a. North Kent\* [Chattenden?], a fine series, July 1875 (Tugwell, *Entomologist*, 8: 292). Chattenden Roughs (Chaney (1884-87)).

8. Folkestone district\* (Ulliyett (1880)).

15. Dungeness, two, 1934 (G. W. Wynn, teste A. M. Morley).

16. Hythe, four, July 1894, in S. Lond. Ent. Nat. Hist. Soc. coll. (Bretherton, *loc. cit.*).

VARIATION.—In R.C.K. is ab. *bigramma* Esp., one, “Kent vii.1908”.

FIRST RECORD, 1848: Northfleet (Hodgekinson, *Zoologist*, 2328).

**Graphiphora augur** F.: Double Dart.

Native. Woods (apparently preferring those on chalk soils), marshes, carr; on sallow, blackthorn, hawthorn.

1. Recorded from every part of the division. Numerous at light and sugar up to about 1905, less frequent during the present century.

Lewisham, two larvae knocked off sallow, March 30, 1861; larvae on sloe, hawthorn, sallow, April 12-15, 1861 (Fenn, *Diary*). The only recent records are:—Orpington, 1926 (F. D. Greenwood). Dartford Heath, four, July 13-17, 1933, one, 1954 (B. K. West). West Wickham, two at sugar, July 17, 1929 (S. Wakely); one, July 24, 1953, one, July 22, 1954, one, July 10, 1955 (E. E. J. Trundell); one at light, July 25, 1956, two at m.v., 1963 (C.-H.). Sidcup, three, 1923-25, one, July 3, 1930, one, July 15, 1935 (A. R. Kidner, *Diary*). Lee, one at light, 1954 (C. G. Bruce).

2. Greenwich (J. W. Tutt, in *Wool. Surv.* (1909)). Near Davington, common, 1913-14, 1923 (H. C. Huggins). Dartford Marshes, one at honeydew on thistle, July 11, 1963 (B. K. West).

3. Canterbury, formerly common at sugar (F. A. Parry). Blean, numbers bred 1905 (J. P. Barrett coll.).

4. Deal, one, July 7, 1891 (Fenn, *Ent. Rec.*, 2: 203). Marshes between Deal and Sandwich, not very common (E. & Y. (1949). Ham Fen, one, June 17, 1950, one, July 2, 1955 (C.-H.).

5. Chevening, June 30-July 17, 1912; June 18-July 17, 1913; imagines bred 1913 from wild larva and pupa (Gillett, *Diary*). Halstead, July 15, 1925 (Frampton, *Entomologist*, 59: 173). Westerham, frequent at light, one, July 1, 1948 (R. C. Edwards). Biggin Hill, one, very worn, July 20, 1952, one, July 3, 1954 (C.-H.).

6. Greenhithe (Farn MS.). Gravesend, one at street lamp, July 2, 1914 (F. T. Grant). Pinden, odd ones at sugar (E. J. Hare). Otford, two, 1955, six, 1956, all at light (W. B. L. Manley). Meopham, June 29, July 9, 1958, June 20, 1959, July 22, 1960, pupae, June 24, 1958 (J. Ellerton). [(Rochester district.—Chaney (1884-87) states that he had not found it in this area.)]

6a. Darent Wood (Stephens, *Haust.*, 2: 131).

7. Boxley, 1953 (A. H. Harbottle).

8. Folkestone (Knaggs (1870)). Wye (Scott (1936)); one, August 2, 1955, one, July 24, 1956, both at light (W. L. Rudland). Dover, one at m.v., June 26, 1953 (G. H. Youden).

10. Sevenoaks, July 6, 1919 (Gillett, *Diary*).

11. Wateringbury (V.C.H. (1908)). Shipborne, numerous at sugar, 1939, and again in 1948 or 1949 (H. E. Hammond).

12. Ham Street, one, June 8, 1953, A. L. Goodson (R.C.K.). Willesborough, one, July 11, 1954; one, July 21, 1955; one, July 31, 1956 (W. L. Rudland).

13. Blackhurst, Tunbridge Wells, one at sugar, 1890 (G. V. Bull). Tunbridge Wells, 1904, 1906, and in other years, common at light and at sugar, thirteen one night (E. D. Morgan); one, c. 1955 (L. R. Tesch).

16. Folkestone, ♂ at m.v., July 12, 1952 (A. M. Morley).

FIRST RECORD, 1829: Darent Wood (Stephens, *loc. cit.*).

#### **Diarsia brunnea Schiff.: Purple Clay.**

Native. Woods, lanes near woods; on birch, dock. Recorded from all divisions except 4, 9, 15.

“Generally common” (V.C.H. (1908)); but the records indicate that it has become less plentiful since, and although still of regular occurrence, particularly at light, numbers are small, and there is no instance on

record of its having been noted in abundance on any one occasion for more than fifty years.

Larvae were beaten from birch at Chislehurst by S. F. P. Blyth, from which he reared the imagines in May-June 1939; and D. R. M. Long records that from a larva found feeding on dock at Bromley, he reared the imago.

FIRST RECORD, 1829: Darenth Wood (Stephens, *Haust.*, 2: 132).

**D. mendica** F. (**festiva** Schiff.): Ingrailed Clay.

Native. Woods, copses; on birch. Recorded from all divisions, except 2; apparently scarce or casual in 4, 9, 15. "Generally common" (V.C.H. (1908)).

Huckett (*Ent. week. Int.*, 10: 117) records the finding of larvae at West Wickham feeding on birch, from which he reared the moth.

4. Sandwich, one, June 28, 1954 (W. D. Bowden); one at light, c. 1950 (C.-H.). Ickham (D. G. Marsh).

9. Margate (H. C. Huggins).

15. Dungeness, one, June 23, one July 2, one, July 6, 1962, all in m.v. trap (R. E. Scott).

VARIATION.—Very variable and difficult to classify in accordance with the nomenclature. So far as I can judge, the following named abs. are represented in my series of some seventy Kentish specimens from various localities, including many from Sturry, West Wickham, Ham Street and Benenden: *conflua* H.-S.; *rufo-virgata* Tutt; *ignicola* H.-S.; *ochrea-virgata* Tutt; *primulae* Esp.; *congener* Hb.; *subrufa* Haw.; *caerulea* Tutt; *festiva* Hb.; *transversa* B.-Salz; also several referable to nymotypical *mendica* F. (C.-H.).

Tutt (*Br. Noct.*, 2: 121-122) records from Kent the first four abs. named above, in addition to the nymotype; and in 1891, he made the following statement (in *Ent. Rec.*, 2: 266 et seq.): that "it is impossible to get from the mainland of Scotland so far as we at present know, a single form that cannot be obtained occasionally in our Kent woods".

Knipe (1961) records ab. *conflua* H.-S.; and in R.C.K. are ab. *rufovirkata* Tutt; ab. *ignicola* H.-S.; ab. *conjuncta* B.-Salz, one.

FIRST RECORD, 1829: Darenth Wood, frequently taken (Stephens, *Haust.*, 2: 135).

**D. dahlii** Hübn.: Barred Chestnut.

Probable resident. Woods, heaths; foodplant unknown. Very uncertain in appearance, but usually found in numbers when it does occur.

1. West Wickham, two, August 25, 1846, by sweeping heather (Stainton, *Zoologist*, 1791); 1859 (Barrett, *Ent. week. Int.*, 7: 75). [West Wickham?], twenty-four, taken August 1859 (Allchin, *Ent. week. Int.*, 7: 204). Shooters Hill (W. West, in *Wool. Surv.* (1909)).

2. Near Sheerness, one at sugar, 1871 (Walker, *Ent. mon. Mag.*, 8: 185).

3. Bysing Wood, common last week in July and first three weeks of August 1913 and 1914, on flowers of wood-sage after dark (H. C. Huggins). Canterbury\*, at sugar, scarce, September 1865 (H. Vaughan, in *Ent. Ann.*, 1866: 153).

7. Westwell, common in 1922 on the Pilgrim's Way towards Charing (F. W. Andrews, teste E. Scott); two, taken by E. Scott, August 16, 1934 (A. M. Morley); quite common at sugar, c. 1946, and a few since (E. Scott, *personal communication*, 1955).

8. Near Folkestone\*, six (in 1875) (Haggar, *Entomologist*, **8**: 300). [(Dover, two, 1945 (Gardiner, *Ent. Gaz.*, **10**: 8), is based on erroneous determination (C.-H.))]

11. [Wateringbury] on burdock flowers, July (1880) (Thornewill, *Entomologist*, **14**: 70). Wateringbury, turned up commonly one year [c. 1900] (W. A. Cope); sixteen from here in E. Goodwin coll., but without date (C.-H.). Wateringbury; Yalding (V.C.H. (1908)).

12. Ham Street, ♂, at flowers of wood-sage, August 5, 1935 (A. J. L. Bowes); one, September 20, 1935 (F. H. Lees). Long Rope Wood, one at sugar, August 12, 1933 (A. M. Morley).

13. Pembury (Stainton, *Man.*, **1**: 236). Tunbridge Wells district\*. scarce (Knipe (1916)).

14. Sandhurst, ♀, bred August 30, 1930, ex larva (G. V. Bull). [(Hawkhurst (de Worms, *Entomologist*, **67**: 102) is an error for Beckley, Sussex (de Worms, *in litt.*).)]

FIRST RECORD, 1846: West Wickham (Stainton, *Zoologist*, 1791).

**D. rubi** View. (*bella* Borkh.): Small Square-spot.

Resident. Marshes,, damp woods, wet meadows; foodplant unknown. Found in all divisions.

There are two generations, the first appearing on the wing from about the end of May to late June, the second in August and sometimes continuing to the beginning of October. First brood specimens are much fewer as a rule than those of the second generation, indeed the moth is seldom, if ever, found plentifully in the spring; but on the other hand, is occasionally noted in abundance in the autumn.

Reid (*Entomologist*, **29**: 335) recorded that at Yalding (div. 11), it was common at light on August 8, 1896; and J. A. Parry (*personal communication*) observed it in abundance at Sandwich in the autumn of 1947. I have myself seen the moth many times in various parts of the county, both at light and at sugar, but always scantily, except on one occasion when some forty specimens were counted at m.v.l., at Dungeness, by the Long Pond, September 18, 1954 (C.-H.). W. L. Rudland's counts for the period that he regularly operated m.v. traps are sufficiently interesting to reproduce here in full, and were made in two areas apparently very suitable for the species:—Willesborough, May 26-July 3 (21), August 20-October 5 (32) 1954, June 7-28 (29), August 2-September 21 (163) 1955, May 25-June 24 (81), August 17-September 25 (98) 1956; Wye, May 28-June 19 (8), August 18-September 15 (23) 1953; May 26-July 1 (12), August 19-October 16 (49) 1954; May 27-June 26 (33), August 8-September 22 (220) 1955; May 25-July 1 (90), August 8-October 2 (58) 1956; the maximum number noted on any single night at Wye, was 40 on August 23, 1955, and at Willesborough, 29, also on August 25, 1955.

FIRST RECORD, 1829: Darent Wood, occasionally in considerable plenty (Stephens, *Haust.*, **2**: 135).

[**D. florida** Schmidt: Fen Square-spot.

Probably resident. Marshy places; foodplant unknown.

In 1950, Cockayne (*Entomologist*, **83**: 173-174) added *florida* as a species new to the British list; but owing to its close similarity to *D. rubi*, is one of the most critical. The three examples listed here for Kent are considered to be almost certainly referable to *florida*, but further cap-

tures and evidence confirming its occurrence in the county is much needed.

4. Ham Fen, ♂, in fresh condition, June 17, 1950 (C.-H.).

16. Folkestone, ♂, at m.v.l., June 20, 1956†, taken by A. M. Morley (Scott, *Trans. Folkestone nat. Hist. Soc.*, 1956:6); ♀, at m.v.l., June 29, 1958† (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1959:43).]

### **Ochropleura plecta L.: Flame Shoulder.**

Native. Cultivated and waste places; foodplant unrecorded. Frequent and in all divisions. Regularly double brooded, with greater numbers in the second generation. "Common in some places" (V.C.H.(1908)).

The first generation usually appears on the wing from about the middle of May, but in 1961, Long (*Ent. Rec.*, 73: 133) noted it at Bromley on April 12, a remarkably early date.

Gillett (*Diary*) mentions that one emerged, May 10, 1918, from a larva taken at Chevening; and Kidner (*Diary*) records having taken two larvae of this species at Sidcup, one on August 28, 1920, the other on September 24, 1939.

FIRST RECORD, 1859: Chatham district (Tyrer, *Ent. week. Int.*, 7: 4).

### **Amathes agathina Dup.: Heath Rustic.**

Native. Heaths; on *Calluna vulgaris*. Apparently very scarce now, and in some localities extinct.

1. West Wickham, one worn, September 14, 1845 (Douglas, *Zoologist*, 1223); one, by sweeping heather, August 25, 1846 (Stainton, *Zoologist*, 1791); 1859 (Barrett, *Ent. week. Int.*, 7: 75); a larva in West Wickham Wood, May 18, 1861 (Fenn, *Diary*). Bostall Common, one, August 28, 1862, by A. H. Jones; Abbey Wood, one, August 28, 1863 (Fenn, *Diary*). Keston (Nottle, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1902: 85); four, 1906 (W. Barnes, in *Wool. Surv.*(1909)). S. E. London area: "Formerly excessively abundant in the larval state on heaths in spring, is now scarce" (Fenn, *Ent. Rec.*, 6: 231). Petts Wood, about 12 larvae, May 17, 1865, an imago by A. H. Jones, August 9, 1865 (Fenn, *Diary*). Chislehurst, one at light, September 1909 (Sperring, *Ent. Rec.*, 22: 14; idem, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1910-11: 96). St. Paul's Cray Common, one, 1914 (S. F. P. Blyth).

[6a. Darenth (*Zoologist*, 3152), is apparently erroneous.]

10. Seal Chart (Carrington, *Entomologist*, 13: 79). Westerham.—about 12 on Hosey Common, August 18-25, 1935 and 1936 (R. C. Edwards); a larva (Coote and Jacobs, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1937-38: 37); eight imagines, August 27, 1937 (E. J. Hare).

11. Mereworth Woods, a larva, May 14, 1939 (A. R. Kidner).

12. Burnt Oak Wood, Ham Street.—1936: six full-fed larvae found by A. M. Morley and C. G. M. de Worms, May 24; a few fresh imagines on heather bloom, August 19 (de Worms, *Entomologist*, 70: 55, 88); ten larvae found by E. Scott, A. G. Peyton, and A. M. Morley on May 29, and one other by someone else on June 3 (A. M. Morley). 1937: At least eight larvae found, April 16-May 6 (A. J. L. Bowes, *Diary* and A. M. Morley). 1939: thirteen nearly full-fed larvae found by me on old heather bushes at night feeding near the ends of the twigs on May 23, and one more on June 17, from which imagines emerged during the last fortnight of August (C.-H.); several fresh imagines flying 9.15-9.45 p.m., on August 20

and 26 (Bowes, *Ent. Rec.*, 52: 77).

13. Tunbridge Wells (E. D. Morgan).

VARIATION.—All the Ham Street specimens that I have seen conform to ab. *rosea* Tutt, and in some of A. M. Morley's, the pale costa is very pronounced (C.-H.).

FIRST RECORD, 1846: Douglas, *loc. cit.*

**A. glareosa** Esp.: Autumnal Rustic.

Resident. Heaths, chalky places; foodplant unknown.

This species shows an interesting pattern of distribution for the past decade, and a remarkable spread in the eastern half of the county, for which there were previously only a few old records. The increase has mainly taken place in the Ashford district, also to some extent in the coastal terrain between Hythe and Dover. There are signs, however, that this expansion has not yet reached its limit, and it is probable that owing to lack of observers, the moth is present in many more localities in these areas than the records show, though it is noteworthy that as yet, there is no recorded occurrence for either Willesborough or Ham Street. Finally, there is the unexpected appearance this year of *glareosa* close to the border of the metropolis, and it would be interesting should this turn out to be the forerunner of a more general expansion extending to West Kent.

1. Birch Wood (Curtis, *Br. Ent.*, 237); "my specimens were captured in the neighbourhood of Birch-wood" (Stephens, *Hast.*, 2: 159). West Wickham, 1859 (Barrett, *Ent. week. Int.*, 7: 75); at sugar, September 12, 1866, by W. Rogers (Knaggs, *Ent. Ann.*, 1867: 152); West Wickham Wood (West, *Ent. Rec.*, 18: 201); eight taken at sugar, August 1, 2, September 4, 1926 (S. Wakely). Pauls Cray Common, one, September 18, 1875, taken by B. A. Bower (Fenn, *Diary*). Dartford\*, September 6, 1878 (Farn MS.). Dartford Heath (Fenn, in *Wool. Surv.* (1909), may refer to the preceding occurrence). Abbey Wood, now extinct (V.C.H. (1908)). Bostall Heath (Fenn, in *Wool. Surv.* (1909)) (may refer to the preceding). Farnborough (Hope Alderson, in *Wool. Surv.* (1909)). Keston, one in E. Nottle coll., labelled: "Keston B. 20.8.04" (C.-H.). Eltham one, (A. H. Jones, in Buckell and Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1899: 71). Shooters Hill (Jones, in *Wool. Surv.* (1909) doubtless refers to the preceding occurrence). Petts Wood, one at sugar, September 20, 1911 (S. F. P. Blyth). Lee, ♂ in m.v. trap, September 11, 1963 (C. G. Bruce).

3. Canterbury\*, September 1865, at sugar, scarce (H. Vaughan, *per* Knaggs, *Ent. Ann.*, 1866: 153).

6. Greenhithe, in moth trap, and in garden (Farn MS.).

6a. Darenth (Carrington, *Entomologist*, 12: 211).

7. Westwell, several at m.v.l., 1962 (S. Wakely and E. Scott); numerous at m.v.l., September 1963 (E. Scott).

8. Folkestone Warren, three (in 1875) (Haggar, *Entomologist*, 8: 300); one at rest on grass, October 26, 1953 (G. H. Youden); eleven, September 25, twenty-seven, September 30, about twelve, October 8; all at m.v.l. in 1956 on footpath in the Warren below Capel (W. L. Rudland). Brook, 1963 (C. A. W. Duffield, *fide* P. Cue).

9. Northdown, Margate, one, August 20, 1915 (H. G. Gomm).

11. Hoads Wood, one, by E. Scott, August 29, 1953 (de Worms, *Ent. Rec.*, 66: 48); five taken by P. Cue, at light, September 15, 1953 (Scott, *Ent. Gaz.*, 5: 123); September 12 (1), 18 (9) 1954; September 20, 1955 (14);

September 20, 1956 (3); all at m.v.l. (W. L. Rudland); nine at m.v.l., September 9, 1955, and ten more a few days later (P. B. Wacher and C.-H.); 1955 (de Worms, *Entomologist*, **89**: 94); 1956 (Marsh, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1956: 37; de Worms, *Entomologist*, **90**: 181); eight, at m.v.l., September 15, 1963 (B. K. West).

12. Ashford Town, September 20 (1), 24 (1) 1957; ♀, pink ab., 1959; two, both pink, September 17, 1963; all at m.v.l. in garden (P. Cue). West Ashford, one, September 19, 1960, three, September 9, 11, 20, 1961, one, September 25, one, October 3, 1962, all at m.v.l. (M. A. Enfield).

[13. Tunbridge Wells district\*, one (A. L. H. Townsend), is doubtful (Knipe (1916)).]

14. Tenterden (Stainton, *Man.*, **1**: 233).

16. Folkestone\*, one taken by J. W. Walton, c. 1898 (A. M. Morley coll.). Folkestone Town, one at m.v.l., October 5, 1953 (A. M. Morley). Sandgate, two, 1962 (N. Reay-Jones).

[(The inclusion of this species in Stephen-Jones (*Rep. St. Edmund's School Canterbury nat. Hist. Soc.*, 1945-49: 23), is erroneous (A. G. Mackonochie).)]

VARIATION.—I have one good ab. *rosea* Tutt, taken Hoads Wood, September 9, 1956, and have seen several other *rosea* from there (C.-H.).

FIRST RECORD, 1828: Birch Wood (Curtis, *Br. Ent.*, 237).

**A. castanea** Esp. (*neglecta* Hübñ.): Grey Rustic.

Resident, perhaps extinct. Heaths; foodplant unknown.

Note: One taken in 1952, is the only known occurrence for over forty years.

1. Birch Wood (see *First Record*); at sugar, September 2 and 3, 1843 (Douglas, *Zoologist*, 484); two, September 1843 (Stevens, *Zoologist*, 334; but may refer to the preceding occurrence). West Wickham, one, September 9, 1845 (Douglas, *Zoologist*, 1223); one, by sweeping heather, August 25, 1846 (Stainton, *Zoologist*, 1791); 1859 (Barrett, *Ent. week. Int.*, **7**: 75); "taken during the past few years" (Mannering, *Entomologist*, **43**: 204, communicated 9.vi.1910); 1911 (K. P. Keywood, in de Worms, *Lond. Nat.*, 1954: 76). Chislehurst: Abbey Wood (V.C.H. (1908)). Bexley (L.W. Newman, in *Wool. Surv.* (1909)). Lee ♀, at m.v.l., September 5, 1952 (C. G. Bruce).

6. Greenhithe\* (Farn MS.).

6a. Darent Wood (Stephens, *Haust.*, **2**: 157, as *Caradrina laevis* Haw.).

10. Seal Chart (Carrington, *Entomologist*, **13**: 79).

11. Wateringbury, one in Goodwin coll., labelled, "Bred Mid. Kent, 1904, T. Blest" (C.-H.). Wateringbury (V.C.H. (1908)); eight specimens in Goodwin coll., labelled, "Wateringbury" (C.-H.).

13. Pembury (Stainton, *Man.*, **1**: 238). Southborough (M. M. Phipps, in Morgan, *Lepidoptera of Tunbridge Wells* MS.). Ramslye, taken by E. D. Morgan at sugar and heather bloom, pre. 1914, but scarce (Knipe (1916)). Near the High Rocks, Tunbridge Wells (A. L. H. Townsend, *fide* E. D. Morgan).

VARIATION.—Allchin (*Ent. week. Int.*, **7**: 204) records that in August 1859, he took thirty-eight examples of this species in Kent, "more than one-third of them the red variety".

C. G. Bruce's Lee specimen may be described as greyish-ochreous, with the stigmata and submarginal line outlined in reddish-grey (C.-H.).

FIRST RECORD, 1829: One, "in September 1816, at Birch-wood" (Stephens, *Haust.*, **2**: 154).

**Amathes baja** Schiff.: Dotted Clay.

Native. Woods, carr; on birch. Recorded from all divisions, except 2, 9; apparently scarce in 15. "Generally common" (V.C.H. (1908)).

Chaney (1884-87) with reference to the Rochester district, gave it as "abundant in all our woods and lanes"; and Fenn (*Diary*)<sup>1</sup> wrote of it as very common and "the commonest species", at Shooters Hill Wood, on June 30, 1862. Otherwise, although of fairly regular occurrence, it does not appear to have been found very plentifully, the comparative scarcity being perhaps most noticeable in recent years. At Bromley, a total of only eight were noted at m.v.l. in 1962, and but one in 1960, with none at all in 1959 and 1961 (D. R. M. Long); at Sevenoaks Weald, only one at m.v.l., in 1960 (E. A. Sadler) about eight at m.v.l., at Meopham, in 1960 (R. Ellerton); and curiously enough, none at all at Goudhurst, 1948-61 (W. V. D. Bolt). I have found it mostly at Orlestone Woods, 1948-51, both at sugar and light, also at Westbere (div. 4), 1946, but with never more than about six specimens at each place on a good night (C.-H.). W. L. Rudland's annual totals at m.v. traps are: Wye, 1954 (7), 1955 (3), 1956 (19); Willesborough, 1953 (10), 1954 (18), 1955 (19), 1956 (23).

The only records of the larva are those of Fenn. (in *Wool. Surv.* (1909)), who states that he found the species commonly in the larval stage at Lee and elsewhere on div. 1; and of Huckett (*Ent. week Int.*, **10**:117) who states that on June 18, 1861, he bred the moth from larvae found at West Wickham feeding on birch.

15. Canal near Appledore, August 6, 1956 (W. L. Rudland). Dungeness, one, in m.v. trap, August 6, 1962 (R. E. Scott).

VARIATION.—In R.C.K. are ab. *monachi* Meves, one, Chatham district, 1908; and nymotypical *baja* Schiff., three, Chatham district, 1908.

Tutt (*Br. Noct.*, **2**: 106) records ab. *grisea* Tutt, from Chattenden and Deal; also from Chattenden and Deal, ab. *caerulescens* Tutt, which latter he considered very rare.

FIRST RECORD, 1859: Chatham (Tyrer, *Ent. week. Int.*, **7**: 4).

**A. c-nigrum** L.: Setaceous Hebrew Character.

Probable resident, perhaps reinforced by immigration<sup>1</sup>. Cultivated and waste places, woods, etc.; foodplant unknown. In all divisions, and doubtless to be found in every part of the county.

The records show that the moth underwent a period of comparative scarcity between about 1890 and 1910. Thus, Fenn (*Ent. Rec.*, **6**: 231; *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1899: 71) noticed it as scarce in north-west Kent, though formerly abundant there; and V.C.H. (1908), instead of the customary "generally common", gives localities.

There seem to be two generations; the imago appearing on the wing from late May to early July, and again from mid-August to October. It is often abundant in the autumn, but as a rule is much less plentiful from May to July. In 1956, W. L. Rudland noted it at light at Wye as late as November 15.

It is a noteworthy fact that although this is one of our commonest moths, there is not a single instance on record of any of the early stages in nature.

VARIATION.—In my series, variation is mainly in regard to the ground colour of the forewing, which ranges from vinaceous-buff through drab-grey to fuscous and fuscous-black (Ridgeway, *Color Standards*), with

occasionally a rosy tinge; I also have three ab. *rufa* Tutt, one that approximates to ab. *suffusa* Tutt, and an example in which the pale triangular area in centre of forewing is reduced to a spot (C.-H.).

A. M. Morley has a good ab. *suffusa* Tutt; also a very large ab., wing expanse 44 mm., with the pale central triangle on forewing abnormally wide and prolonged to merge with the reniform. The same recorder (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1955: 37, plt. 3, fig. 11) exhibited one having the pale triangle reduced in size and very similar in this respect to the example mentioned above.

One taken by Manley at Ham Street, September 2, 1956, and exhibited (*Proc. S. Lond., ent. nat. Hist. Soc.*, 1956: 36, plt. 3, fig. 2) is the very rare albino.

FIRST RECORD, 1829: "I have taken it at Darenth . . ." (Stephens, *Haust.*, 2: 136).

<sup>1</sup>Classed as a migrant by Williams *et al* (1942).

#### **A. *ditrapezium*** Schiff.: Triple-spotted Clay.

Resident. Woods; foodplant unknown.

In 1946, *ditrapezium* reappeared in West Kent after an apparent absence of forty years<sup>1</sup>; it has since extended its range considerably, and in 1953 occurred in the eastern half of the county for the first time on record. The moth has subsequently been taken there fairly regularly, but never many at a time.

1. Birch Wood (Stainton, *Man.*, 1: 235). West Wickham, at a meeting on October 18, 1898, it was remarked that *ditrapezium* is "still found at . . . West Wickham"; J. W. Tutt, who was present, however, said he had not known it to occur in Kent (*Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1898: 10); one, in m.v. trap in my garden, June 30, 1948 (C.-H.): two, 1959 (R. Birchenough). Bromley, at m.v.l., 1961, two, 1962, five, July 7-August 2, 1963 (D. R. M. Long).

5. Westerham, July 6, 1946, July 23, 1948 (R. C. Edwards).

6. Dartford\*, rare (V.C.H. (1908)). Rochester district\*, 1905 (Ovenden, *Ent. Rec.* 18: 18). Clay Lane Wood, two, 1906 (H. C. Huggins).

7. Westwell, two, July 30, 1956 (W. B. L. Manley); a number at m.v.l. since, but only one in 1963 (E. Scott).

8. Whitfield, one, at m.v.l., in a back garden, July 7, 1953 (T. G. Edwards, *Diary*). Bettleshanger, July 6, 1957 (R. F. Bretherton).

11. Hoads Wood, c. 1959 (P. Cue).

12. Willesborough, two, July 18, 22; one, August 4, 1954; one, July 21, one, August 4, 1955; three, July 14, 17, 21; two, July 31; one, August 2; two, August 3; two, August 9, 10, 1956; Wye, one, August 19, 1954; one, August 9, 1955; two, July 20, 1956 (W. L. Rudland). Brook, several, 1954 (C. A. W. Duffield *fide* E. Scott). Orlestone Woods, July 28, 1956 (R. F. Bretherton); c. 1959 (P. Cue). Ashford Town, two, July 9; one, July 17, 1957; one, July 29, 1958; one, end July 1963; all at m.v.l. in garden (P. Cue). Hothfield Common, July 17, 1960 (Scott, *Bull. K. Fld. Cl.*, 6: 28); several at m.v.l. in 1960 and 1961; one, July 1963 (P. Cue).

FIRST RECORD, 1857: Stainton, *Man.*, 1: 235.

<sup>1</sup>The records indicate that the moth has recently spread into Kent from Surrey; and it is of interest to note in this respect that from about 1947 to 1952, it was found in numbers annually by E. H. Wild in Selsdon Woods, Surrey, situated only 1 mile from the Kent boundary.

**A. triangulum** Hufn.: Double Square-spot.

Native. Woods, marshes, etc.; on dock, birch. Frequent and found in all divisions. "Generally common" (V.C.H. (1908)).

The moth is apparently single brooded, but has occurred as early as May 30, at Willesborough in 1956, and as late as August 28, at Wye in 1954 (W. L. Rudland).

Huckett (*Ent. week. Int.*, **10**: 117) records the finding of larvae at West Wickham feeding on birch, from which he reared the moth. Gillett (*Diary*) wrote that he took a larva on dock at Chevening, April 12, 1914, from which he reared the moth. The larva has also been found on dock at Bromley by D. R. M. Long and reared.

VARIATION.—In R.C.K. is ab. *sigma* Hübn., three, bred Bexley, 1903.

A specimen in G. V. Bull coll., taken Sandhurst, July 7, 1953, had the ground colour quite grey (C.-H.).

FIRST RECORD, 1829: Darenth Wood, Birch Wood, and near Dover (Stephens, *Haust.*, **2**: 133).

**A. stigmatica** Hübn. (*rhomboidea* Treits.): Square-spotted Clay.

Native. Woods, particularly those on chalk; foodplant unknown.

1. West Wickham Wood, two at sugar by Huckett, Newman's assistant, August 24, 1861 (Fenn, *Diary*); August 21, 1868 (Wormald, *Ent. Ann.*, 1869: 135); "during the past few years" (Mannering, *Entomologist*, **43**: 204, communicated in 1910); one, 1950; one, 1951 (E. Trundell). Abbey Wood, August 16, 1860 (Fenn., *Lep. Data*). Bexley.—five, August 11; six, August 14; worn, August 21, 1875; worn, September 18, 1886; all in Joydens Wood (Fenn, *Diary*); 1900 (Carr, *Entomologist*, **34**: 108); (L. T. Ford). Farnborough, six, 1895 (Hope Alderson, *Ent. Rec.*, **7**: 183). Chislehurst, "one many years ago" (S. F. P. Blyth). Orpington, 1949 (L. W. Siggs).

2. Higham, scarce (H. C. Huggins).

3. Broad Oak, ♀ at sugar, August 7, 1945 (C.-H.).

5. Chevening, August 12, 22, September 2, 1914 (Gillett, *Diary*). Westerham, frequent (R. C. Edwards, *in litt.*, 1949); numerous at light and of regular occurrence; three, 1963 (R. C. Edwards).

6. Greenhithe\* (Farn MS.). Culverstone, August 15-31, 1922 (F. T. Grant). Eynsford (S. F. P. Blyth). Fawkham; Pinden, fairly common (E. J. Hare). Otford, two, 1955; four, 1956 (W. B. L. Manley).

6a. Darenth Wood (Douglas, *Zoologist*, 3218); August 8, 1861 (Fenn, *Diary*); (S. F. P. Blyth); 1949. at ragwort blossom. fairly common (B. K. West).

7. Wigmore Wood, uncommon (Chaney (1884-87)). Westwell (Scott (1936)); common at light and sugar, August 6-27, 1938 (E. Scott); twelve, August 9, over a dozen, August 14, 1938; two at light and buddleia. August 17, 1939 (A. J. L. Bowes); July 7, 1946 (Bull, *Diary*); five at m.v.l., August 8, 9, 1955 (C.-H.); of regular occurrence annually to 1963 (E. Scott).

8. Deal\*, 1912 (Tonge, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1912-13: 124). Alkham; St. Radigund's; Waldershare; Bettleshanger; at flowers of Willow Herb and Marjoram (E. & Y. (1949)). Wye, one, August 20, 1936 (de Worms, *Entomologist*, **70**: 88); August 2, 10, 1945, at sugar (Bull, *Diary*); (C. A. W. Duffield); three, August 7-11, 1953; one, August 27, 1954; two, August 15, 1955; one, August 25, 1956 (W. L. Rudland). Bridge, one, c.1946 (R. Goror). Dover, 1943 (B. O. C. Gardiner).

11. [Wateringbury] (Thornewill, *Entomologist*, **14**: 70). Aylesford,

c.1953 (G. A. N. Davis). Hoads Wood, several, worn, August 29, 1953 (de Worms, *Ent. Rec.*, **66**: 48); one, August 11, 1955 (C.-H.).

12. Willesborough, one, August 23, 1955; one August 20, 1956 (W. L. Rudland).

13. Southborough (M. M. Phipps, in Morgan, *Lepidoptera of Tunbridge Wells MS.*). Ramslye (E. D. Morgan). Tunbridge Wells, occasional, 1956-58 (L. R. Tesch, *per C. A. Stace*).

FIRST RECORD, 1851: Darent Wood (Douglas, *Zoologist*, 3218).

**A. sexstrigata** Haw. (**umbrosa** Hübn.): Six-striped Rustic.

Native. Marshes, damp woods, wet meadows, etc.; foodplant unknown. Fairly plentiful in 2, 4.

1. Near Birch Wood; Sydenham Wood (Stephens, *Hast.*, **2**: 108). Lee; Eltham; Shooters Hill (*Wool. Surv.* (1909)). Chislehurst, one, 1911, one, 1920 (S. F. P. Blyth). Bexley (L. T. Ford); at ragwort (B. K. West); one, 1952 (A. Heselden). Petts Wood, 1946 (A. M. Swain); 1949 (E. Evans). West Wickham, common in 1949, but not seen since (R. Birchenough, in de Worms, *Lond. Nat.*, 1954: 77).

3. Thornden Wood, at sugar, August 11, 1929 (A. J. L. Bowes). Whitstable (P. F. Harris). Herne Bay, singletons at light (D. G. Marsh). Broad Oak, of frequent occurrence in small numbers at light and sugar, 1944-48 (C.-H.).

5. Westerham, fairly numerous and of regular occurrence (R. C. Edwards).

6. Pinden, one, 1950 (E. J. Hare). Meopham, August 26, 1958, August 10, 15, 1960, August 10, 1961 (J. Ellerton).

7. Westwell (Scott (1936)); August 17, 1939 (A. J. L. Bowes).

8. Folkestone\* (Ullyett (1880)). Stowting (C. A. W. Duffield). Wye (E. Scott). Dover, odd specimens taken (Gardiner, *Ent. Gaz.*, **10**: 7). Barham (A. G. Mackonochie).

10. Sevenoaks, August 13, 1920 (Gillett, *Diary*).

11. Shipborne, several in P. A. & D. J. A. Buxton coll. (C.-H.). Edenbridge, at sugar, 1930 (F. D. Greenwood). Near Hoads Wood, swarming, August 24, 1934 (Scott (1936)). Aylesford (G. A. N. Davis). Betherston, August 15-20, 1960 (C. R. Haxby & J. Briggs). Sevenoaks Weald, three, August 21-23, 1959, three, August 15-20, 1960, at m.v.l. (E. A. Sadler).

12. Ashford (Scott (1936)). Ham Street, one, August 20, 1939 (A. J. L. Bowes); common at flowers of Devil's-bit Scabious after dark, August 15-20, 1960 (C. R. Haxby and J. Briggs). Canterbury (J. A. Parry). Wye, one, 1953, five, 1956 (W. L. Rudland). Willesborough, thirteen, August 19-September 2, 1954; one, 1955; eighteen, August 7-September 2, 1956 (W. L. Rudland); at light and sugar, 1959-62 (M. Singleton).

13. Southborough (M. M. Phipps, in Knipe (1916)). Goudhurst, one, at m.v.l., 1953 (W. V. D. Bolt).

14. Sandhurst (G. V. Bull).

15. Dungeness (G. V. Bull); a few, August 18-19, 1958 (E. C. Pelham-Clinton).

16. Folkestone (Morley, *Ent. Rec.*, **64**: 171)

FIRST RECORD, 1829: Stephens, *loc. cit.*

**A. xanthographa** Schiff.: Square-spot Rustic.

Native. Rough fields, meadows, waste places, etc.; on *Festuca rubra*. In all divisions, and probably in every part of the county. "Generally abundant" (V.C.H. (1908)).

The moth may often be seen towards the end of August, flying in great numbers at dusk, and afterwards at sugar, where it is usually the commonest moth. Tonge (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1919-20) records that he once counted over seventy *xanthographa* on one patch at Deal.

An imago was reared by D. R. M. Long from a larva found by me at Trottesscliffe, feeding on *Festuca rubra* L. (det. C. A. Stace), April 20, 1962 (C.-H.).

VARIATION.—The majority of Kentish specimens appear to approximate to the nymotype; but of the named aberrations, I find that *rufa* Tutt and *cohesa* H.-S., form a good proportion of examples, *rufescens* and *obscura* on the other hand are not quite so numerous, and *obsoleta-nigra* Tutt and *obsoleta-rufa* only seem to occur occasionally (C.-H.). In R.C.K., is ab. *cohesa* H.-S., the only named Kentish ab. in the coll.; and Morley (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1931-32: 91) exhibited a specimen from Folkestone which was described as "an unusually pale form, an example of albinism".

FIRST RECORD, 1829: Dover (Stephens, *Haust.*, 2: 154).

#### **Axylia putris** L.: Flame.

Native. Woods, gardens, etc.; foodplant unknown. Recorded from all divisions; few records for 15. "Generally common" (V.C.H. (1908)).

The moth frequently occurs at light and sugar, and seems to be fairly generally distributed throughout the county, but is seldom observed very plentifully. The only records of the larva are those of A. R. Kidner (*Diary*), who wrote that in 1928, he took one at Sidcup on September 15, and several others at St. Mary's Cray on September 20.

15. Dungeness, at m.v.l., July, 1957 (E. Philp); three, in m.v. trap, July 6-26, 1962 (R. E. Scott).

FIRST RECORD, 1857: Tenterden (Stainton, *Man.*, 1: 198).

#### **Anaplectoides prasina** Schiff. (**herbida** Hübn.): Green Arches.

Native. Woods, apparently preferring those on chalk; foodplant unrecorded.

1. West Wickham, one, 1858 (Barrett, *Ent. week Int.*, 4: 109); (W. Barnes, in *Wool. Surv.* (1909)). Dartford Heath, one, June 13, 1862 (A. H. Jones, teste Fenn, *Diary*). Dartford (V.C.H. (1908), may refer to the preceding occurrence). Bexley Old Park Wood, one, June 14, 1862; Shooters Hill Wood, one, June 3, 1863 (Fenn, *Diary*). Crown Woods; Shooters Hill (West, *Ent. Rec.*, 18: 230). Eltham (V.C.H. (1908), may refer to the preceding record). Farnborough; Keston (W. Barnes, in *Wool. Surv.* (1909)). Farningham, 1952 (B. K. West).

5. Twitton, near Shoreham, two at sugar, 1946 (H. E. Hammond). Westerham, one, in m.v. trap, June 22, 1959 (R. C. Edwards).

6. Clay Lane Wood, one, 1906 (H. C. Huggins). Eynsford, ♀, 1946 (H. E. Hammond). Near Kingsdown, ♀, 1951 (T. J. Honeybourne).

6a. Darenth Wood (see *First Record*). "I have taken this . . . in Darenth-wood" (Stephens, *Haust.*, 3: 30); 1844 (Douglas, *Zoologist*, 687); nine, and several others by Bouchard, June 16, 1862 (Fenn, *Diary*); 1870 (Standish, *Entomologist*, 5: 147).

7. Westwell, at valerian, June 27, 1935 (A. J. L. Bowes); one, at m.v.l., 1952 (G. H. Youden); a few noted annually since before the war (E. Scott, *personal communication*, xii.1954).

8. Folkestone\* (Ullyett (1880)); June 6, 1892 (Fenn, *Diary*). Wye Downs (Scott (1936)). Brook, annually (C. A. W. Duffield, fide E. Scott, personal communication, xii.1954); one, bred, 1959, from pupa found in dead log (M. Singleton). Elham Park Wood, June 8, 1953 (Wakely, *Ent. Rec.*, 66: 110); one, at m.v.l., July 4, 1959 (G. H. Youden). Wye, three, June 10-July 7, 1953; two, June 28-July 21, 1954; four, June 27-July 20, 1955; thirteen June 28-July 20, 1956; all in m.v. trap (W. L. Rudland). Dover, one, July 11, 1955, one, July 8, 1956, both in m.v. trap in garden (G. H. Youden).

10. Sevenoaks\*, 1857 (Farren, *Ent. week. Int.*, 2: 171). Bessels Green, several at sugar, June 27, 1934 (B. H. Armstrong, teste W. A. Cope). Crockham Wood, a larva, from which the imago was bred, 1938 (R. C. Edwards).

11. Wateringbury, taken by E. Goodwin (W. A. Cope); (V.C.H. (1908)). Hoads Wood, about twenty at sugar, June 18, 1956 (P. Cue); about twelve, June 12, about twelve, June 23, 1963, all at m.v.l. (B. K. West). Sevenoaks Weald, one, July 1, 1960, at m.v.l. (E. A. Sadler).

12. Willesborough, one, July 8, 1955 (W. L. Rudland); one at light, 1960 (M. Singleton). Orlestone Woods, one, July 28, 1956 (R. F. Bretherton).

13. Tunbridge Wells, three, 1891 (Beeching, *Ent. Rec.*, 2: 229); 1892 (idem., *Ent. Rec.*, 3: 158). Ramslye, one, 1908 (E. D. Morgan). Hawkenbury, one, at sugar, 1908 (Given (1946); E. D. Morgan *in litt.*).

14. Knock Wood, c. 1855 (Beale, *Diary*). Tenterden, common (Stainton, *Man.*, 1: 271, is based on Beale's record *antea*). Great Wigsell, one, at sugar, June 29, 1929 (G. V. Bull).

16. Near Hythe (Morley (1931)). Folkestone, ♂, July 15, 1953, ♂, July 1, 1955, both at m.v.l. (A. M. Morley).

VARIATION.—In R.C.K., is ab. *albimacula* Hormuzaki, Shooters Hill, one, May 1929, J. Juby.

FIRST RECORD, 1829: "Mr. J. Standish has beaten it out of Oaks in Darent Wood the beginning of June" (Curtis, *Br. Ent.*, 248).

#### **Eurois occulta** L.: Great Brocade.

Immigrant. Waste places, etc.

The earliest reference to *occulta* in Kent is that of Curtis (*Br. Ent.*, 248), who says: "The female that I possess was found near Dover Castle in August". Stephens (*Haust.*, 3: 29), merely has "near Dover". The following is a chronological record of its subsequent occurrence:—

1846-1870.—1846: Lewisham (div. 1), ♂, at sugar, August 28 (Stainton, *Zoologist*, 1790). 1851: Darent (div. 6a), at sugar, September, exhibited at Soc. British Entomologists, October 7, 1851 (*Zoologist*, 3296). (1853): Knock Wood, Tenterden (div. 14), one at sugar, September (Beale, *Zoologist*, 4130). 1862: Blackheath (div. 1), one, on a lamp, August 22 (Fenn, *Diary*). 1864: Chatham Dockyard (div. 2), one, July 12 (Chaney (1884-87)). 1869: Lee (div. 1), end of August, ♂, taken at sugar, two others escaped (Scott, *Ent. mon. Mag.*, 6: 114); Folkestone, a few at sugar, end of August (Briggs, *Ent. mon. Mag.*, 6: 141). 1870: Maidstone, one (G. H. Hickling MS.).

1913-1961.—1913: Romney (div. 15), one, August (Manley, *Entomologist*, 46: 290). 1926: West Wickham (div. 1), one, at sugar, August 11 (Wakely, *Entomologist*, 59: 302). 1938: Dungeness, one, August 27 (H. B. D. Kettle-

well, *fide* A. M. Morley). 1948: Near Beckenham (div. 1), one, July 3 (Wheater, *Entomologist*, **82**: 108); Brook, one, August 13 (Duffield, *Entomologist*, **82**: 108). 1954: Goudhurst (div. 13), ♂, at light (W. V. D. Bolt). 1955: Brook, August 4 (French, *Entomologist*, **89**: 176). 1958: Ham Street (Huggins, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1958: 18). 1959: Ham Street Village, one, at m.v.l., July 31 (B. F. Skinner). 1961: Willesborough, one, rather worn, in m.v. trap, August 15 (M. Singleton).

FIRST RECORD, 1829: Near Dover Castle (Curtis, *Br. Ent.*, 248).

**Gysitea leucographa** Schiff.: White-marked.

Resident, apparently extinct. Woods; foodplant unknown.

1. West Wickham (V.C.H. (1908)).

[3. Near Canterbury (*Entomologist*, **80**: 175)]

6a. Darent Wood, March 21-23, 1856 (Harding, *Ent. week. Int.*, **1**: 11).

7. Chatham district.—taken at sallow, in 1860, when accompanied by Mr. Chaney (Lewcock, *Ent. week. Int.*, **8**: 75); "This very local moth has only occurred to me singly on several occasions at sallow bloom in Wigmore Wood. March 18-April 15" (Chaney (1884-87)). One, in R.C.K., labelled "Westwell, 22.3.1893" (C.-H.).

8. Folkestone\* (Ulluyett (1880)). Dover district.—several taken, 1880, by Mr. Davis; April 1881, at sallow (Eedle, *Entomologist*, **14**: 116); Poulton Wood, two, at sallow, March 24, 1897; two, April 12, 1905; Coombe Wood, one, March 17, one, March 22, three, April 2, 1898, all at sallow; one, at sallow, March 17, 1902 (H. D. Stockwell, *Diary*; Stockwell coll.); "used to be found at Coombe Wood, Poulton and St. Radigund's" (E. & Y. (1949)); three, April 21, one, April 26, one, April 27, 1908; two, fresh, April 13, one, April 14, one, April 17, one, April 18, four, April 20, 1909; most, if not all, at sallow (Cardew, *Diary*; idem., *Proc. S. Lond. ent. nat. Hist. Soc.*, 1910-11: 101).

13. Groombridge, one, April 1885 (Blaber, *Entomologist*, **18**: 168). Tunbridge Wells, one, "Tun. Wells, Kent. I. 23.iv.12. Wm. G. Pether", one, Tun. Wells, Kent. I. 27.iv.12. Wm. G. Pether" (C.-H. coll.). Tunbridge Wells district, not common (Knipe (1916)).

FIRST RECORD, 1856: Darent Wood (Harding, *Ent. week. Int.*, **1**: 11).

**Cerastis rubricosa** Schiff.: Red Chestnut.

Native. Woods, etc.; foodplant unknown. Of frequent occurrence, but seldom plentiful. Fairly generally distributed, and recorded from all divisions, except 4, 9; once only for 15. "Generally distributed, but getting scarce" (V.C.H. (1908)).

A. J. L. Bowes (Diary) writes that at Ham Street, on March 26, 1935, seventeen *rubricosa* were taken; such a large number in one night, however is exceptional.

It appears that very occasionally there is a partial second generation. Thus, Stowell (*Entomologist*, **65**: 70) writing in 1931, states that "some years ago Mr. Percy Richards recorded an autumnal capture of this species at Hythe".

It is noteworthy that none of the early stages seem to have been observed in nature, at least there is no record of them.

15. Dungeness, three, May 4, 1962, in m.v. trap (R. E. Scott).

VARIATION.—Most Kentish examples seem to conform to *rubricosa* Fab. I have several of what appear to be ab. *mista* Hüb., and singletons of

*abs. pallida* Tutt, and *mucida* Esp. (C.-H.).

In R.C.K. are the following:—ab. *rufa* Haw., Benenden, April 14, 1939, G. V. Bull; ab. *mista* Hübn., Wye, Kent, 1924. Also, *rubricosa* Fab., Ham Street, 1939.

FIRST RECORD, 1829: Darenth Wood, about end March 1820 (E. Blunt, per Stephens, *Haust.*, 2: 161).

### **Naenia typica L.: Gothic.**

Native. Gardens (particularly old gardens in towns), marshy places, etc.; on hawthorn, blackthorn, *Ribes sanguineum*, the fruit of apple, *Epilobium*, ivy, dandelion, groundsel, dock, lupin, *Pelargonium*, nettle, *Anemone japonica*, Honeysuckle, *Syringa*, "Woundwort", Dog's Mercury, *Polyanthus*, "Lemon Verbena". The species chiefly occurs in metropolitan Kent, and is scarce or absent from many parts of the county. The statement in *V.C.H.* (1908) that it is "generally common", is unsupported by the records.

1. The species is most prevalent *nearest* to the metropolis, and has been recorded many times from this division in the past, e.g. Lee, larvae on hawthorn, March 30, 1861; an immense brood of larvae on *R. sanguineum*, August 26, 1875 (Fenn, *Diary*). Lewisham, July 1881, "so plentiful that it became quite a nuisance, averaging at least 4 or 5 to each patch of sugar" (Marriot, *Young Nat.*, 2 (89), 267). Chislehurst, one, at light, 1907 (S. F. P. Blyth). Bromley, 1908 (W. A. Cope). Sidcup, young larva on *Epilobium*, October 15, 1910; a larva on ivy, April 30, 1911; noted in small numbers, in 1914, 1916, 1917, 1920, 1924, 1925, 1926, 1928, 1932 (A. R. Kidner, *Diary*). Catford, seven, 1923-25 (W. E. Busbridge, *Diary*). Bexley, 1930 (L. T. Ford). Abbey Wood (Juby & Hards (1925)).

Recent records are:—Charlton, one, June 4, 1947; Ruxley, two larvae, March 29, 1948; one larva on blackthorn, April 24, 1948 (J. F. Burton). Petts Wood, one, at light, 1948 (E. Evans); not common (A. M. Swain). Blackheath, three larvae feeding on apples; imagines on street lamps (Allen, *Ent. mon. Mag.*, 97: 31). Plumstead Common, 1952 (M. Smith, teste A. J. Showler). Abbey Wood, one at m.v.l., 1953 (A. J. Showler). St. Mary Cray, two or three annually, 1955-57 (R. G. Chatelain). West Wickham, 1951 (E. J. Trundell); ♂, in m.v. trap, June 23, 1963 (C.-H.). Lee, in small numbers at m.v. annually, 1952-63 (C. G. Bruce).

2. Greenwich Marshes, July 15, 1861, three, July 4, 1862, a few, July 16-19, 1886 (Fenn, *Diary*). Greenhithe\* (Farn MS.). Higham, two at sugar the same night 1906 (H. C. Huggins). Cuxton\*, regularly (Tutt, *Ent. Rec.*, 19: 48). Gravesend, July 25, 1911 (F. T. Grant). Dartford Marshes, one imago at rosebay willowherb, one, at honeydew on thistle, July 11, 1963; two at honeydew on hogweed, July 14, 1963 (B. K. West).

3. Canterbury, some at Whitehall, July-August 1893 (S. Wacher MS.). East Blean, one, July 11, 1905 (J. P. Barrett coll.).

4. Sandwich district, August 6, 1884 (Tutt, *Entomologist*, 18: 70); (idem., *Ent. Rec.*, 19: 48). Deal Sandhills, one, July 15, 1889; three, July 7-8, 1891 (Fenn, *Diary*); one, at sugar, July 24, 1904 (S. F. P. Blyth); one, at sugar, July 4, 1908 (P. A. Cardew, *Diary*). Ham Fen, one imago on flowering rush, July 2, 1955 (C.-H.).

6a. Chattenden Roughs, June (Chaney (1884-87)); (Tutt, *Ent. Rec.*, 19: 48); a few larvae, 1908 (Ovenden, *Ent. Rec.*, 21: 31).

8. Dover, one in m.v. trap in garden, June 27, 1953 (G. H. Youden).

9. Margate, twelve taken flying at dusk, June 16, 1921; fourteen larvae on dandelion, groundsel, etc., imagines reared, 1921; one, July 1, 1932 (H. G. Gomm, *Diary*). Ramsgate, one, July 9, 1920 (J. W. C. Hunt).

10. Brasted, at sugar (R. M. Prideaux). Sevenoaks, about ten, 1939; Seale, several larvae, 1948 or 1949; Twitton, near Shoreham, about three larvae on dock, 1948 or 1949 (H. E. Hammond).

11. Wateringbury, numerous specimens in E. Goodwin coll., but without date (C.-H.). Edenbridge, 1933 (F. D. Greenwood). Shipborne, very common at sugar, 1939, also in 1948 or 1949; Leigh, about twenty larvae on lupin, 1946 (H. E. Hammond). Aylesford, one, 1953 (G. A. N. Davis).

12. Canterbury\*, very common at sugar [c. 1910] (F. A. Parry). Ashford (Scott (1936)); never common, and not seen since the war (E. Scott, *personal communication*, xii.1954); one, July 15, 1957, July 1960 (P. Cue). Ham Street Woods, one, June 24, 1938 (Scott (1950)). Brook (Scott (1950)); sometimes common in C. A. W. Duffield's garden, one there 1954 (E. Scott). Chartham, one, July 16, 1953 (P. B. Wacher). Wye, one, July 10, 1953, one July 18, 1954, one, July 15, 1955, four, July 13-August 4, 1956 (W. L. Rudland). Willesborough, one, July 20, one, July 24, 1956 (W. L. Rudland); two, 1958 (D. Youngs).

13. Tunbridge Wells, common, 1891 (Beeching, *Ent. Rec.*, 2: 229); larvae a pest on *Anemone japonica* and Garden Geraniums (*Pelargonium*), also on dock, Lemon Verbena, Syringa, Nettle, Woundwort, Dog's mercury, Polyanthus, Honeysuckle; formerly abundant, less common lately (Morgan, *Lepidoptera of Tunbridge Wells MS.*; Given (1946)), two or three, 1957-58 (L. N. Tesch, *fide* C. A. Stace).

14. Sandhurst, one, July 5, one, July 10, 1930; one, August 6, 1931 (G. V. Bull). Hawkurst, one, 1950, one at light, August 15, 1953 (B. G. Chatfield).

16. Folkestone\*, larvae on nettles, autumn and spring (Knaggs (1870)). Folkestone Town, ova, 1933, imagines reared; two at m.v.l., 1951 (A. M. Morley). West Hythe, July 20, 1956 (P. Cue).

FIRST RECORD, 1829: "Common throughout the metropolitan district . . ." (Stephens, *Haust.*, 2: 167). The first to actually mention Kent however, dates from 1861: Lee (Fenn, *Diary*).

#### NOCTUINAE

##### **Euschesis comes** Hübn. (*orbona* F.): Lesser Yellow Underwing.

Native. Cultivated and waste places; on Wild Cabbage, Red Valerian, dock, primrose, nettle, honeysuckle, "Arum", "Willow-Herb", periwinkle. Found in all divisions; fairly plentiful. "Generally common" (V.C.H. (1908)).

Several larvae on Wild Cabbage and Red Valerian at Dover, March 26, 1948, imagines reared (C.-H.); larva at Gravesend, March 12, 1915, on periwinkle (F. T. Grant); larvae on other plants mentioned above, in Tunbridge Wells district (Morgan, *Lep. Tunbridge Wells MS.*).

VARIATION.—Tutt (*Br. Noct.*, 2: 99) records specimens of ab. *connuba* Hübn., from Deal; and Cockayne (*Ent. Rec.*, 64: 131) describes ab. *albescens*, holotype ♀, Dover, bred June 20, 1898, by H. D. Stockwell.

Richardson (*Ent. Gaz.*, 9: 123) mentions an example of ab. *sagittifera* Cockayne, from Dungeness; and Benton (*Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1908: 11) exhibited one from Folkestone, with "hindwings suffused with black".

A specimen taken by B. K. West on Dartford Heath, on August 10, 1956, and seen by me, is referable to ab. *rufa* Tutt, a form that is rare in the south (C.-H.).

FIRST RECORD, 1860: Taken in Kent, August 1859 (Allchin, *Ent. week. Int.*, 7: 204).

[**E. orbona** Hufn. (**subsequa** Hübn.): Lunar Yellow Underwing.

Doubtfully Kentish.

I suspect the record for Beckenham refers to *E. comes* Hübn. However, the "Canterbury" specimen—which I have seen—is unquestionably *orbona* Hufn., though I doubt very much if it is genuinely Kentish.

1. Beckenham, one, taken August 17, 1920 (K. P. Keywood, in *de Worms, Lond. Nat.*, 1954: 81).

3. Canterbury, one in Meldola coll., labelled "Hospital Wood, Canterbury, Aug. '88" (Woodforde, *Entomologist*, 54: 92).]

**E. janthina** Schiff.: Lesser Broad-border.

Native. Woods, gardens, etc.; on dock, ivy, foxglove, honeysuckle, "arum", sallow, birch, nettle. Recorded from all divisions; few records for 4, 15. "Generally common" (V.C.H. (1908)).

Though usually not very numerous, the moth has occasionally been noted in abundance. Thus, at Ham Street, in August 1960, it occurred "in dozens" (C. R. Haxby and J. Briggs); about a score appeared at m.v.l. at Westwell, August 8, 1955 (C.-H.); and in 1962, D. R. M. Long counted a total of 748 *janthina* in the m.v. trap in his garden at Bromley, with maximum of 98 on September 1.

The larva has been found on birch by Fenn (*Diary*) and the moth reared; also on this, and the other foodplants above, by Morgan (*Lep. Tunbridge Wells MS.*) in the Tunbridge Wells district.

4. Ickham (D. G. Marsh).

15. Dungeness, three, August 13-19, 1962, in m.v. trap (R. E. Scott).

VARIATION.—Ab. *pallida* Lempke, in which the ground of hindwings is pale yellow, has occurred as follows: one, labelled "Bred Shoreham 1.9.1901" (in R.C.K.); ♂, taken at m.v.l. by J. J. Light, Tunstall (div. 7), August 13, 1962 (C.-H.).

FIRST RECORD, 1801: Darenth Wood (Donovan, *Nat. Hist. Br. Ins.*, 10: 45).

**E. interjecta** Hübn.: Least Yellow-underwing.

Native. Field borders, waysides, waste places; on *Lamium album*, bramble, *Urtica dioica*. "Not generally common" (V.C.H. (1908)).

1. Birch Wood (see First Record) (Curtis, *Br. Ent.*, 348). Lewisham, common at sugar, July 20-August 21, 1846 (Stainton, *Zoologist*, 1790). West Wickham (V.C.H. (1908)). Near Dartford\*; Farnborough; Bexley; Eltham; Lee; Kidbrook; Beckenham (*Wool. Surv.* (1909)). Chislehurst, one, August 25, 1914 (S. F. P. Blyth). Dartford Heath (L. T. Ford). Sidcup, one at light, August 7, 1939 (A. R. Kidner). Dartford, common at ragwort, 1946 (B. K. West). Abbey Wood, 1947 (A. J. Showler). Blackheath (Hyatt, in *de Worms, Lond. Nat.*, 1954: 82). Bexley, one, July 29, 1952 (A. Heselden). Lee, several at m.v.l., 1957-59 (C. G. Bruce). St. Mary Cray, 1957 (R. G. Chatelain).

2. Faversham; Sittingbourne (H. C. Huggins).

3. Herne Bay, occasionally in the town (A. J. L. Bowes). Eddington, occasionally (D. G. Marsh). Canterbury Old Park, very common very locally, c. 1947 (J. A. Parry). Broad Oak, four at privet blossom, July 28, one at buddleia, July 31, 1939, two, at sugar, August 2, 1948, one, at light, July 31, 1955; on August 1, 1955, some twenty *interjecta* were seen careering wildly along a hedgerow, proving very difficult to net, and a poor substitute for the bred insect when captured; the flight commenced at about 8 p.m., and lasted until 9.15 p.m., when it was just dusk; weather calm, sky clear, temperature moderate (C.-H.)<sup>1</sup>.

4. Deal Sandhills, two, August 7, 1889 (Fenn, *Diary*). Deal\*, 1906 (Browne, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1906-07 : 86). Sandwich, July 26, 1936 (A. J. L. Bowes). Minster, one bred July 13, 1954, ex larva (W. L. Rudland).

5. Chevening, August 6, 1913, two, July 30, 1918 (Gillett, *Diary*). Westerham (R. C. Edwards).

6. Greenhithe\* (Farn MS.). Pinden, not common (E. J. Hare, in litt., 1948); a few in 1952 (Hare, in de Worms, *Lond. Nat.*, 1954 : 82). Meopham, singletons at m.v.l., August 3, 7, 13, 1960 (J. Ellerton).

6a. Darenth Wood (see *First Record*) (Curtis, *loc. cit.*); 1894 (James, *Entomologist*, 28 : 86); July 26, 1911 (F. T. Grant). Chattenden Roughs (Chaney (1884-87)).

7. Chatham district\*, four, 1859 (Tyrer, *Ent. week. Int.*, 7 : 4). Darland Hill; Wigmore Wood; frequently flies by day at bramble blossom (Chaney (1884-87)). Faversham; Sittingbourne (H. C. Huggins). Westwell, August 14, 1938 (A. J. L. Bowes).

8. Folkestone Warren, common, flying wildly before dusk (Knaggs (1870)); a larva on bramble at dusk in 1929, from which the imago emerged July 14, (A. M. Morley); larva, April 5, 1933 (J. H. B. Lowe). Martinsfield, two, 1902 (Browne, *Entomologist*, 35 : 269). St. Margaret's-at-Cliffe, c. 1935, eight larvae by day, April 23 on *L. album*; and at Kingsdown, three larvae, April 28, from which five imagines emerged July 6-12 (A. M. Morley). Wye (Scott (1936)). Ewell Minnis; Lydden; Waldershare; Whitfield (E. & Y. (1949)). Dover (Gardiner, *Ent. Gaz.*, 10 : 7). Stowting (C. A. W. Duffield). Brook (Scott (1950)).

9. Ramsgate, two, July 28, 1938 (J. W. C. Hunt).

10. Brasted, flying by day (R. M. Prideaux).

11. Tonbridge district, 1911 (Rattray, *Entomologist*, 45 : 80). Shipborne (P. A. & D. J. A. Buxton coll.). Edenbridge, 1930, 1933 (F. D. Greenwood). Aylesford (G. A. N. Davis). Paddock Wood (Morgan, *Lepidoptera of Tunbridge Wells MS.*).

12. Ham Street (Scott (1936)). Ashford (Scott (1936)); August 1953 (P. Cue). Willesborough, three, July 24-August 4, 1954, four, July 19-August 15, 1955, twelve, July 31-August 15, 1956; Wye, one, August 5, 1953, one, August 4, 1954, one, August 19, 1955, three, July 31-August 9, 1956; all in m.v. trap (W. L. Rudland).

13. Pembury (Stainton, *Man.*, 1 : 230). Tunbridge Wells (E. D. Morgan). Goudhurst, common (W. V. D. Bolt, *personal communication*, 1961).

14. Knock Wood, c. 1855 (Beale, *Diary*). Tenterden (Stainton, *Man.*, 1 : 230, refers to the preceding record); 1960 (C. G. Orpin). Sandhurst (G. V. Bull).

15. Dungeness, one, July 23, 1932 (A. M. Morley); July 22, 1935, August 6 (3), 9, 1938 (A. J. L. Bowes); July 7-8, 1959 (C. R. Haxby); one, in m.v.

trap, August 15, 1962 (R. E. Scott). Greatstone, a larva, May 25, two imagines at m.v.l., July 1963; Snargate, many flying at dusk along hedge-side, August 5, 1955 (C.-H.).

16. Folkestone Town, one, July 29, 1943; the following in m.v. trap: 1951 (none), 1952 (1), 1953 (1), 1954 (2), 1955 (4), 1956 (2), 1957 (1), 1962 (1); also two in m.v.l. by R. W. Fawthrop, in 1954; Hythe, near the beginning of the Military Canal, May 21, 1932, thirteen larvae at night on *V. dioica* and grass (apparently only resting on the latter), from which imagines emerged July 12-18 (A. M. Morley).

VARIATION.—Barrett (*Br. Lep.*, 4: 13) records two specimens from Folkestone, in which the longitudinal shades in hindwings "have become conspicuous straight black bars".

A. M. Morley (*in litt.*) observes that it does not vary very much in his experience; five specimens bred from larvae from St. Margarets-at-Cliffe, and Kingsdown, are all ab. *rufa* Tutt; one taken, Folkestone, August 1, 1952, has "the forewings mostly of a rather greyish brown"; and the rest of his specimens are typical.

FIRST RECORD, 1829: Darenth and Birch Woods (Stephens, *Haust.*, 2: 106).

<sup>1</sup>This habit of *interjecta* is well-known, and the most likely explanation for the late afternoon communal flight would seem to be one of sexual attraction. Moreover, it is noteworthy that of the total number of nine specimens that it was possible to capture on this occasion, all proved to be males.

### **Noctua pronuba** L.: Large Yellow-underwing.

Resident, perhaps reinforced by immigration. Gardens, woods, cultivated and waste places; on spinach, cabbage, dock, "bedstraw", ivy bloom, "annual phlox", hop. Found in all divisions, and probably present in varying numbers everywhere in the county. "Generally abundant" (V.C.H. (1908)).

The moth is apparently in one long continuous brood, from late May to October, reaching optimum from about the middle to the end of August. It is usually plentiful and often abundant, but has occasionally been known to be quite sparse. Thus, A. R. Kidner (*Diary*) noted it as numerous at Sidcup up to 1935, but rather scarce from 1936-38, and particularly so in 1939. The species was also remarked upon by Owen (*Ent. Rec.*, 63: 298), as being scarce in Kent in 1951. Since then, however, it has become abundant again, and in 1955, at Wye, the maximum number was reached on August 23, with 209 in the trap (W. L. Rudland); and at Bromley in 1962, the total count for the year at m.v.l. was 1625 (D. R. M. Long).

Theobald (*Entomologist*, 63: 7) records the larva on hop leaves in Kent; and at Tunbridge Wells, larvae have been found on spinach (*Spinacia*) (C. A. Stace); also in that district on the other foodplants given above (Morgan, *Lep. Tun. Wells MS.*). A. R. Kidner (*Diary*) found larvae abundantly at Sidcup in October 1917, "at roots of grass"; and I have frequently dug up pupae and larvae from the herbaceous border in my garden at West Wickham, and reared the moth (C.-H.).

VARIATION.—Extremely variable it seems wherever it occurs, with many named abs., the relative frequency of which has yet to be worked out.

Cockayne (*Ent. Rec.*, 64: 33) described ab. *attenuata*, holotype ♀, Bexley; and Morley (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1931-32: 91)

exhibited an ab. with "hindwings suffused with dark", bred from Folkestone larva.

A ♂, taken by C. G. Bruce, at Lee, 1952, has a clearly marked crescent in the discal area of hindwings; the latter are also suffused with dark adumbration, which becomes more intense distally. Forewings blackish-brown (C.-H.).

The following abs. from Kent are in R.C.K.:—*rufa* Tutt, two, near Herne Bay, 1932; *distincta-caerulescens* Tutt, one, Lydd, 1937; *pallida* Kaiser.

FIRST RECORD, 1861: Lewisham, larva, April 2, 1861 (Fenn, *Diary*).

**Lampra fimbriata** Schreber (*fimbria* L.): Broad-bordered Yellow-underwing.

Native. Woods, copses; on birch, hazel, hawthorn, blackthorn. Recorded from all divisions, except 2. Apparently most frequent in the Weald; perhaps scarce or casual in 4, 9, 15.

Gillett (*Diary*) reared the moth from a larva found on hawthorn, Chevening, March 24, 1913; and Fenn (*Ent. week. Int.*, **10**: 196) recorded the larvae in abundance at West Wickham on birch buds. On April 13, 1951, after dark, we took on the edge of Spring Park, West Wickham, in under an hour, 35 larvae on buds of birch, hawthorn, blackthorn, hazel (E. Trundell, R. Birchenough, and C.-H.).

4. Deal (Tutt, *Br. Noct.*, **2**: 92); one, 1900 (James, *Entomologist*, **33**: 357).

9. Ramsgate\* (Willson, *Entomologist*, **23**: 140). Ramsgate, one, 1918 (J. W. C. Hunt). Broadstairs, one, 1946 (J. W. C. Hunt); one, c. 1956 (N. Thorn). Cliftonville, one, 1955 (W. D. Bowden).

15. Dungeness, one, August 11, 1934 (A. M. Morley); five, August 6, 1938 (A. J. L. Bowes); three at m.v.l., August 3, 1951 (C.-H.); July 1957 (E. Philp); one, July 30, two, August 5, 9, 1962, all in m.v. trap (R. E. Scott).

VARIATION.—Most Kentish specimens I have seen approximate to the nymotype; ab. *rufa* Tutt is fairly frequent, and what I judge to be the following abs., have occurred to me occasionally: *brunnea* Tutt; *brunnea-virescens* Tutt; *virescens* Tutt; *solani* Fab.; *juncta* Lempke (C.-H.).

Tutt (*Br. Noct.*, **2**: 92) recorded ab. *rufa*, about 12 specimens, Deal Sandhills, 1885; and Cockayne (*Ent. Rec.*, **64**: 33) described ab. *albida*, holotype ♂, Folkestone, 1905 (possibly the example from Folkestone Warren, exhibited by Bright, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1910-11: 144), which specimen is now in R.C.K.

Parry (*Entomologist*, **5**: 394) states that at sugar near Canterbury, it was "excessively abundant, as many as twenty with every variety of colour on one tree".

In R.C.K. are the following abs. from Kent: *nigrescens* Busse, six; *obscura* Lenz, one; *domiduca* Hufn., one; *brunnea-virescens* Tutt, two; *rufa* Tutt, three.

A ♂, taken by B. K. West, at Dartford, July 30, 1963, has the right hindwing all black except for the cilia which are orange; unfortunately a sizeable portion of the tornal area is missing. The specimen is otherwise normal (C.-H.).

FIRST RECORD, 1829: Darent Wood (Stephens, *Haust.*, **2**: 105).

## HELIOTHINAE

[**Periphanes delphinii** L.: Pease-blossom.

Doubtfully genuine.

8. At C. A. Briggs coll. sale, November 24, 1896, "one is astounded at the giving of 12/- for a *Chariclea delphinii*, stated to have been 'taken by F. Tickner, at Dover, in 1893'" (Tutt, *Ent. Rec.*, 9: 42). The specimen is in Br. Mus., S. Kensington (C.-H.).]

**Pyrrhia umbra** Hufn. (**marginata** F.): Bordered Sallow.

Suspected resident reinforced by immigration. Downs, chalky places, sandhills, shingle beach, etc.; on *Ononis repens*, *O. spinosa*. Perhaps permanently established coastally in 4, 8.

There appear to be two generations in favourable years. The moth was noted as early as June 1, at Sandwich in 1934 (A. J. L. Bowes); and as late as August 19, at Lee in 1862 (Fenn, *Diary*).

1. Birch Wood (Stephens, *Haust.*, 3: 108). Lee, one, August 19, 1862, in lucerne field (Fenn, *Diary*). Bromley, eight, 1901 (Lawrence, *Entomologist*, 34: 229, 355). Joydens Wood (*Wool. Surv.* (1909)). Chislehurst, one, at sugar July 12, 1910 (S. F. P. Blyth). Lessness Woods (Newell, *Trans. Plumstead and Dist. nat. Hist. Soc.*, 1931-32: 12). Bexley, one, n.d. (L. T. Ford). Dartford Heath, larva, August 30, 1932 (A. R. Kidner). Petts Wood, one, 1948, one, 1949 (E. Evans). Orpington, 1955 (L. W. Siggs).

2. Iwade (H. C. Huggins).

3. Herne Bay (McLachlan, *Ent. week. Int.*, 4: 126); larvae on *O. spinosa* (Vaughan, *Ent. Ann.*, 1866: 155); odd specimens at light (D. G. Marsh). Broad Oak, one, 1936 (C.-H.). Eddington, at light, July 11, 1949 (D. G. Marsh, *Diary*).

4. The moth is of regular occurrence on the Deal-Sandwich sandhills, and is usually observed singly; on June 20, 1954, however, I took two at light and four others at sugar, on St. George's Golf course, at about 2.30 a.m. (C.-H.). Several were noted well inland at Ickham, at m.v.l., 1954-59 (D. G. Marsh).

5. Chevening, June 15, 1917 (Gillett, *Diary*). Westerham (R. C. Edwards).

6. Greenhithe\* (Farn MS.). Pinden, a few (E. J. Hare, *personal communication*, iv.1956). Otford, 1955 (W. B. L. Manley). Eynsford, July 8, 1960 (R. G. Chatelain).

6a. Darent Wood (Stephens, *loc. cit.*); July 1853 (Harding, *Zoologist*, 3923); one [c. 1860], one, July 1865 (Fenn, *Diary*); 1865 (Blackmore, *Ent. Ann.*, 1865: 111); one, 1947 (E. J. Hare). Near Chattenden (Ovenden, *Ent. Rec.*, 18: 17).

7. Westwell (Scott (1950)).

8. Recorded many times from the coastal areas of this division, particularly Folkestone Warren, where it is observed regularly, and I have found the larva on *O. repens* (C.-H.). Folkestone\*, larvae abundant on rest harrow, 1864 (Meek, *Ent. mon. Mag.*, 1: 191). Dover Cliffs, larvae common, July 16, 1934 (J. H. B. Lowe). Only occasionally noted inland.—Wye (Scott (1936)). Bridge, one, c. 1946 (R. Gorer). Brook (C. A. W. Duffield).

9. Birchington, c. 1930 (C.-H.). St. Peters, one, July 2, 1956 (W. D. Bowden).

11. Wateringbury, one, July 1906 (Goodwin coll.). Edenbridge, at light, 1930 (F. D. Greenwood). Aylesford, four, 1954 (G. A. N. Davis).
12. Chartham, one, c.1950 (P. B. Wacher). Wye, one, July 14, 1955; Willesborough, two, July 19, 1956 (W. L. Rudland). West Ashford, one, 1957 (M. Enfield).
13. Tunbridge Wells district\*, scarce (R. H. Rattray, in Knipe (1916)). Goudhurst, noted almost annually (W. V. D. Bolt, *personal communication*, 1961).
14. Sandhurst, at sugar and light (G. V. Bull).
15. Romney Marsh (Bull, *Entomologist*, 69: 266). Dungeness, larvae, 1947 (de Worms, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1947-48: 12); July 27, 1956 (R. F. Bretherton) June 13, 1962 (T. W. Harman); one, in m.v. trap, June 14, 1962 (R. E. Scott).
16. Folkestone (A. M. Morley).

FIRST RECORD, 1796: "Mr. Crow, of Feversham [Faversham] . . . met with two or three specimens" (Donovan, *Br. Ins.*, 5: 14). The first definitely Kentish record, however, dates from 1809: "Habitat in Canticum, at valde infrequens" (Haworth, *Lep. Brit.*, 2: 235).

#### **Heliothis viriplaca** Hufn. (*dipsacea* L.): Marbled Clover.

Suspected immigrant and temporary resident. Shingle beach, chalky places, etc.; on *Senecio viscosus*, *Silene nutans*, *Ononis repens*.

Note.—Many of the following records were made before *H. maritima* Grasl. (q.v.) obtained recognition as a British species, so that in the absence of specimens it is nearly always impossible to know to which species they refer. It is a significant fact, nevertheless, that of the total number of records for both species that it has been possible to check, with two exceptions only, all refer to *H. viriplaca*.

2. Sheppey, 1873, one at sugar (Hodgson, *Ent. mon. Mag.*, 10: 180).
4. Sandwich, one, June 13, 1904†, one, June 3, 1905†, both in J. Platt Barrett coll. (C.-H.).
- 6a. Near Dartford\* (see First Record). "Found occasionally flying in the clover fields, by day, near Darent-wood" (Stephens, *Hast.*, 3: 110).
7. Westwell, a fresh ♀†, taken by P. Cue, August 17, 1955, in E. Scott's garden (C.-H.).
8. Dover (Stephens, *loc. cit.*). Near Dover\*, exhibited at Soc. Br. Entomologists, August 5, 1851 (*Zoologist*, 3240). Kent Coast\* [Deal], exhibited by H. J. Harding, at Soc. Br. Entomologists, September 6, 1853, and September 6, 1854 (*Zoologist*, 4071, 4484). Deal district\*.—1856, 1858 (Harding, *Ent. week. Int.*, 1: 108, 4: 125); taken by E. G. Baldwin and F. O. Standish, July 1858 (*Ent. week. Int.*, 4: 134, 146); 1859, 1860 (Harding, *Ent. week. Int.*, 6: 124, 8: 155). Folkestone\*.—The species is included in the 1859 edition of *English's Guide to Folkestone*, edited by S. J. Mackie, and it is possible it appeared in the earlier editions, but none of these have been traced (C.-H.); ♀, between July 24 and August 1, 1858 (H. Tompkins, *Diary*). Folkestone Warren, not common, July (Knaggs (1870)).
9. "In 1818 I saw three or four specimens in the beginning of August, sporting about the vicinity of Broadstairs" (Stephens, *loc. cit.*).

13. Tunbridge Wells district\*, scarce (R. H. Rattray, in Knipe (1916)).
15. Dungeness.—"In 1931, taking *Silene nutans* heads for young larvae of *Dianthaecia*, I found a few larvae of *dipsacea* (*viriplaca*) in June, which the following July produced a form of imagines that were redder in

ground colour than East Anglian examples. Pennington who was also working there got the same form by netting in July" (A. J. Wightman, *in litt.*); a series bred, from larvae taken by Sir Beckwith Whitehouse, in September 1934, when searching for larvae of *H. peltigera* (F. H. Lees, *Ent. Rec.*, **48**: 18; and *in litt.*); several bred June 11-21, 1935, from June 1934 larvae (A. J. Wightman *in litt.*); bred 1948, from larva taken with *H. peltigera*, September 1947 (H. C. Huggins); a larva on *S. viscosus*, in 1952, from which an imago emerged, May 31 1953† (C. G. M. de Worms); four larvae on *O. repens*, July 11, 1959, from which two imagines were bred (B. F. Skinner).

VARIATION.—de Worms (*Entomologist*, **72**: 132) states that the series bred by Whitehouse, from larvae found at Dungeness, "is very similar to the dark continental form of this insect".

Attention is directed to Wightman's note above, of a number of Dungeness specimens that were taken and bred, which "were redder in ground colour than East Anglian examples".

The Kentish *viriplaca* that I have seen all appear indistinguishable from specimens in my coll. from the Suffolk Breck district (C.-H.).

FIRST RECORD, 1801: "Dr. Latham found it in great abundance in a clover field near Dartford, Kent" (Donovan, *Nat. Hist. Br. Ins.*, **10**: 9, plt. 327, fig. 3) (the figure appears to be that of *viriplaca*).

#### ***H. maritima* Graslin: Fulvous Clover.**

Immigrant. Lucerne fields.

9. St. Nicholas-at-Wade.—♀, taken by W. B. L. Manley, flying among *Colias hyale* L., in a lucerne field, August 20, 1947. W. H. Tams and I have examined the specimen, and we are agreed that it conforms to the nymotypical race. The example has an al. expanse of 36 mm., and agrees closely with the illustration of the nymotype in Culot (*Noctuelles et Geometres d'Europe*, **2**: plt. 64, fig. 12), and Graslin's specimen (in Oberthür coll., Br. Mus., S. Kensington), from which the figure was executed (C.-H.).

FIRST RECORD, 1947: St. Nicholas-at-Wade, Isle of Thanet (W. B. L. Manley). It appears that this is also the first and only confirmed occurrence of *H. maritima maritima* in Britain.

#### ***H. septentrionalis* Hoffmeyer<sup>1</sup>: Shoulder-striped Clover.**

Immigrant. Sandy places.

4. Sandwich.—♂, in J. Platt Barrett coll., labelled "Sandwich June 10 1904", in Barrett's handwriting. The specimen has the characteristic "shoulder stripe" well marked, and appears to be indistinguishable from several examples of New Forest, Hants., *septentrionalis* in my coll., with which I have compared it (C.-H.).

[(Cockayne (1941, *Amat. Ent.*, **5** (38): 23) gives "on the shingle at Dungeness"; and this statement is exactly repeated in South (1962, *Moths Br. Isles*, edit. Edelsten and Fletcher, **1**: 317). I very much doubt if this refers to *septentrionalis* however, and strongly suspect that the information was based on Whitehouse's series of *H. viriplaca* (*q.v.*). According to Huggins (*Ent. Rec.*, **69**: 175, and *in litt.*), Whitehouse erroneously recorded his specimens from Dungeness as *septentrionalis*, but that later, Cockayne discovered they were all *viriplaca* (C.-H.))]

## FIRST RECORD, 1904: Sandwich (J. P. Barrett).

<sup>1</sup>Treated here as distinct from *H. maritima* in accordance with Heslop's classification; most authors, however, recognise *septentrionalis* as of sub-specific status.

***H. peltigera*** Schiff.: Bordered Straw.

Immigrant<sup>1</sup>, and perhaps temporary resident. Shingle beach, sandhills, gardens, waste places, etc.; on *Senecio viscosus*, *Calystegia soldanella*, "marigold", *Ononis repens*. Recorded from 1, 3, 4, 6, 7-9, 11-16, but chiefly from the east coast. Most frequent in the shingle beach area of 15, where the choice of pabulum is *S. viscosus*, and where in fact it appears to occur on nothing else; the species is apparently not found on *S. viscosus* elsewhere in Kent.

*19th Century Occurrence*.—The earliest recorded occurrence is that of Stephens (*Haust.*, 3: 109), who states that in 1827, it was found near Dover, and about London. Over thirty years then elapsed before it was again noticed in Kent, and the following is a chronological record of its subsequent appearance. 1858: Deal, four larvae (Harding, *Ent. week. Int.*, 4: 164). 1869: Folkestone (Standish, *Entomologist*, 4: 323) (Knaggs (1870), *Simpson's Handbook to Folkestone* (1871), and Ullgett (1880), may all refer). 1870: Near Margate, two (Cox, *Entomologist*, 5: 165). 1877: Deal, two, August (Tugwell, *Naturalist*, new series, 3: 41). 1883: Dover, two, July (Coverdale, *Entomologist*, 16: 221). 1888: Sydenham (div. 1), one (Sellon, *Ent. Rec.*, 2: 164); Deal, one, August 29 (Fenn, *Diary*). 1889: Dover (Webb (1891)). N.d.: Folkestone (Briggs, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1890-91: 130). 1894: Lee (div. 1), one, June 4 (Fenn, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1894: 46).

1904-(1924).—1904: Deal, one, June 17 (Pearce, *Entomologist*, 37: 287). 1906: Margate, ♂, August 9 (Colthrup, *Ent. Rec.*, 18: 290). 1910: Plumstead, one (H. C. Huggins). 1923: Sidcup, one, July 13 (A. R. Kidner, *Diary*). (1924): Blackheath, one (Edwards, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1924-25: 99) (Dannatt, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1925-26: 59, may refer).

1928-1937.—Margate (Huggins, *Entomologist*, 62: 71). Deal, larvae on *C. soldanella* (Cockayne, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1928-29: 68; idem, *Ent. Rec.*, 40: 166). Ramsgate, one, September 9 (J. W. C. Hunt). Dungeness and near Hythe, larvae swarming, August 29 (Kettlewell, *Ent. Rec.*, 41: 26; *Proc. S. Lond. ent. nat. Hist. Soc.*, 1928-29: 67). Lympne, one, by day, flying over lucerne, September 5 (W. Rait-Smith, teste A. M. Morley). Folkestone, one, flying over knapweed at dusk on the downs, September 18 (A. M. Morley). [1929-30: Dungeness, apparently absent (Wightman, *Ent. Rec.*, 43: 143)]. 1930: Edenbridge (div. 11), one at light (F. D. Greenwood). 1931: Sandhurst (div. 14), two, June (Bull, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1931-32: 61; idem, *Entomologist*, 64: 187). Sidcup, one larva, July 12 (A. R. Kidner, *Diary*). Brook, a few specimens (Scott (1936)). Dungeness, larvae abundant, end July, September (Wightman, *Ent. Rec.*, 43: 143); about 50 larvae by E. Scott, C. A. W. Duffield, and A. M. Morley, August 1, 7, 12, from which A.M.M. bred seven, October 5-19, 1931, and four, July 9-August 8, 1932 (A. M. Morley). 1932: Dungeness, small number of larvae, August 20 (Bull, *Entomologist*, 65: 238); one, at sugar, September 17 (A. M. Morley). 1933: Dungeness, over a dozen larvae, August 14 (de Worms, *Entomologist*, 67: 131). 1934: Dungeness,

one by B. Whitehouse, September 16 (A. M. Morley). 1935: Dungeness, larvae, July 30-August 7 (Bull, *Entomologist*, **68**: 217). [1936: Dungeness, apparently absent (A. J. L. Bowes, *Diary*).] 1937: Near Lydd, larvae, September 15 (Dannreuther, *Entomologist*, **70**: 254).

1938-1947.—1938: Sandwich, imago, June (A. J. L. Bowes). Herne Bay, two ♂♂, in a lucerne field by day, August 28, 30 (C.-H.) (Dannreuther, *Entomologist*, **72**: 15, refers). Dungeness, twenty-four larvae, July 29 (A. H. Lanfear MS.); July-October 1, larvae widespread, abundant, several imagines (Dannreuther, *Entomologist*, **72**: 15, 120; de Worms, *Entomologist*, **72**: 263); one imago, June 11, at night sitting on wire between posts; one imago, at sugar, September 18; twenty larvae, from which eight moths emerged August 23-30, 1938, and three, August 21-October 10, 1939 (A. M. Morley). Lydd, in one afternoon, about the middle of August, about 100 full-grown larvae shaken out of plants of *S. viscosus* that had been pulled up by other collectors (C.-H.). [1939: Dungeness, apparently absent (A. J. L. Bowes, *Diary*)]. 1940: Near Lydd, larvae plentiful, September 10 (Dannreuther, *Entomologist*, **74**: 60). 1941: Sandhurst, one, June 25 (Bull, *Diary*; *Entomologist*, **74**: 280). 1944: Folkestone Town, one, flying in garden, July 8 (A. M. Morley). 1945: Westwell (div. 7), one, June 7 (E. Scott). Pinden (div. 6), ♂, July (Hare, *Entomologist*, **79**: 20). Eynsford (div. 6), August 8 (Blyth, *Entomologist*, **78**: 175). Rolvenden (div. 14), ♂, August 27, in clover field; Littlestone to Dungeness, larvae (Bull, *Entomologist*, **78**: 175). Deal, one, August 3 (C. M. Gummer, teste Riley, *Entomologist*, **78**: 175). Ramsgate, two (ffennell, *Entomologist*, **79**: 174). Bexley (div. 1), a larva on marigold, mid-July (L. T. Ford). Dungeness-Folkestone area, August, imagines numerous, eleven taken, including one in clover field, the rest over *Echium* at dusk, larvae plentiful (Richardson, *Entomologist*, **79**: 19). Dungeness, two, August 5 (de Worms, *Entomologist*, **79**: 76). 1946: Dartford, ♂, July 1 (B. K. West). Folkestone Warren, ♂, July 11 (C.-H.); three, flying over bugloss, July 13 (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1946-47: 36); two larvae on *O. repens*, August 15 (A. M. Morley). Westwell, three, July (Bull. *Proc. S. Lond. ent. nat. Hist. Soc.*, 1946-47: 168); larvae on marigold, September (Dannreuther, *Entomologist*, **80**: 140). Dungeness, larvae widespread and plentiful, mid-August (Dannreuther, *Entomologist*, **80**: 140). 1947: Deal, one, June 10 (C. M. Gummer, *per Rothamsted*). Westwell, larvae on marigold (Scott (1950)). Sandwich, one, June 20, by R. Demuth (A. M. Morley). Dungeness, twenty-four larvae, August 31 (H. King).

1948-1962.—1948: Pinden, one (G. Law). Whitstable, one, August 15 (P. F. Harris). Deal (E. & Y. (1949)). 1949: East Kent (Parfitt, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1949-50: 39). 1951: Waltham (div. 8), nineteen larvae on marigold (J. W. C. Hunt). Dungeness, larvae plentiful, early July (A. J. Wightman); ♂, at m.v.l., August 4 (C.-H., *Entomologist*, **84**: 257). Folkestone Town, one, June, in m.v. trap, by A. G. Riddell (A. M. Morley). 1952: Dover, one in m.v.t., March 16 (G. H. Youden). Dymchurch, imagines, July 8, 10 (Wakely, *Ent. Rec.*, **65**: 44). Folkestone, one, July 18 (D. Marsh, *per Rothamsted*). Dungeness, about 24 larvae, August 16 (de Worms, *Entomologist*, **86**: 146). 1953: Plumstead, one, at m.v.l. (C. Hards). Dungeness, three larvae, September 19-20 (R. F. Bretherton). 1954: Brook, one, May 30 (French, *Entomologist*, **88**: 128). 1955: Dungeness, ten small larvae, September 24-25 (R. F. Bretherton). 1956: Dungeness, few larvae, September 29 (R. F. Bretherton). 1957: Hythe,

larvae numerous, August 11 (R. M. Mere, *per* Rothamsted). Goudhurst (div. 13), three, at light (W. V. D. Bolt). 1958: Lydd, three larvae, on *S. viscosus*, August 2, from which two emerged September 2, 4, 1958 (C.-H.). Willesborough, May 25 (French, *Entomologist*, 92: 174). Maidstone (div. 11), one at buddleia, August 30 (Philp, *Bull. K. Fld. Cl.*, 1958: 20). 1959: Broadstairs, September 23 (French, *Entomologist*, 95: 175). 1962: Dungeness, one, in m.v. trap, July 29 (R. E. Scott); three larvae, September 23 (Bretherton, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1962: 22).

VARIATION.—My captured specimens all appear to conform to typical *peltigera* Schiff., but the bred ones are all darker with the markings more intense (C.-H.). Richardson (*Entomologist*, 91: 212) records ab. *omicronata*, holotype ♂, Dungeness.

Of the variation, A. M. Morley writes (*in litt.*): "I have one ab. *pallida* Cockerell, which is very pale indeed, Warren, 13.vii.1946. However, the most interesting variety is the dark form represented by the seven bred in October 1931. These are darker than the type, which itself varies considerably in depth of colour, and are suffused with brown. They are nearly as dark as the ones bred artificially by Kettlewell". (Note: A. M. Morley states that he always keeps his pupae in the garage so as to have the insects emerge at the normal date).

Kettlewell experimented with hundreds of Dungeness larvae, breeding very pale to very dark imagines (cf. *Proc. S. Lond. ent. nat. Hist. Soc.*, 1943-44: 69-79, plt. 1).

FIRST RECORD, 1830: Stephens, *loc. cit.*

<sup>1</sup>Kettlewell (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1943-44: 78) states that "there is Southern Germany". Unfortunately he does not say what constitutes this evidence. It would be interesting to know this.

#### **H. armigera** Hübn.: Scarce Bordered Straw.

Immigrant; also casual importation. Clover fields, waste places, etc. Recorded from 1-3, 6a, 8, 9, 13, 16; but mainly noted from the north-east coastal areas. Abundant in 1875.

There is no record of the discovery of any of the early stages in nature, but there are indications that in exceptionally favourable years, the species may survive for at least a generation, such as during the period 1875-83, when the moth is recorded as having occurred annually in Kent.

1859-1865.—1859: Folkestone, one, October (R.C.K.); Ramsgate, one (Wormald, *Ent. week. Int.*, 7: 52); West Wickham, one, at sugar (Barrett, *Ent. week. Int.*, 7: 75). 1860: Herne Bay, two (Butler, *Ent. week. Int.*, 8: 172). 1865: Folkestone, mid-July, over *Echium* (Knaggs, *Ent. Ann.*, 1866: 155) (Knaggs (1870), may refer); two, September (Briggs, *Ent. mon. Mag.*, 2: 164; *idem*, *Ent. Ann.*, 1866: 155).

1868-1882.—Except in 1870 and 1872, when it was perhaps absent, the species is recorded as having occurred annually during this period. 1868: Margate, August (Boyd, *Ent. mon. Mag.*, 5: 147); Sheerness, ♂, September 22 (Walker, *Ent. mon. Mag.*, 8: 185; Walker MS.). 1869: Sheerness, two (Walker, *Ent. mon. Mag.*, 8: 185). 1871: Sheerness, one, at ivy, October (Walker, *Ent. mon. Mag.*, 8: 185) (in J. J. Walker coll. are two *armigera* labelled "Isle of Sheppey", but without date (C.-H.)). 1873: Darenth Wood, at sugar, taken by Bird (Fenn, *Diary*, 30.ix.1874). 1874: Darenth Wood, ♂, taken by Packman, at ivy, September 29 (Fenn, *Diary*). 1875: Near Folkestone, one (Haggar, *Entomologist*, 8: 300). 1875-82: Dover district.—

"Swarmed in every cloverfield near Dover in 1875, and specimens occurred annually afterwards until 1882; these were no doubt due to immigration and the natural results of it" (Webb (1899)). 1876: Folkestone, one, September (R.C.K.). 1877: Deal, ♀, August (Tugwell, *Naturalist*, new series, 3: 41; idem, *Entomologist*, 10: 255; idem, *Ent. mon. Mag.*, 14: 112). 1878: Strood, one (Woodforde, *Entomologist*, 54: 162). 1879: Deal, one, July; Kingsdown, one, July (R.C.K.); Dover, common (S. Webb, in V.C.H. (1908)). N.d.: Between Kingsdown and Deal on a bank, one taken flying in the hottest sunshine, also one at night with light (Tugwell, *Young Nat.*, 4: 105) (may refer to the 1877 ♀, and 1879 Kingsdown specimen).

1888-1900.—1888: Dover (Webb (1891)). 1890: Chatham, one, September 5 (Mathew, *Entomologist*, 23: 344). 1894: Folkestone, one, W. J. Austen (Brit. Mus., S. Kensington). 1894: Bidborough (div. 13), one, over Valerian, July 5 (Shepheard-Walwyn, *Entomologist*, 28: 233). 1897: Kingsdown, one, July (Brit. Museum, S. Kensington). 1899: Sheppey, one in lucerne field (Walker, *Ent. mon. Mag.*, 35: 236). 1900: Margate district, one, at sugar, September (Barrett, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1900: 101).

1922-1963.—1922: Bexley (div. 1), one over Valerian, June 21 (MacTaggart, *Entomologist*, 55: 188). 1933: Folkestone Town, one, September 4 (Williams, *Proc. S. London. ent. nat. Hist. Soc.*, 1933-34: 52). 1948: Herne Bay, ♀, September 30 (Marsh, *Entomologist*, 82: 107). [1950: West Wickham, a larva, February 13, in tomato imported with others from Canary Is. (C.-H., *Entomologist*, 83: 95).] 1951: Dover, one, August 5, one, September 4, both at m.v.l. (Youden, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1951-52: 47; idem, *Entomologist*, 84: 261). [1957: St. Peters, Broadstairs, a larva, January 4, in tomato from Las Palmas, Canary Is. (W. D. Bowden).] 1959: Otford (div. 6), one, at m.v.l., September 30 (Manley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1959: 41); St. Peters, Broadstairs, one taken by W. D. Bowden at m.v.l., September 23 (C.-H., *Ent. Rec.*, 72: 97). [Ashford, larva in imported tomato, May 15 (P. Cue).] 1963: West Wickham, ♀, at rest by a light on the wall of a house, October 24, 1963 (R. Birchenough).

FIRST RECORD, 1859: Ramsgate (Wormald, *Ent. week. Int.*, 7: 52).

#### ANARTINAE

##### **Anarta myrtilli** L.: Beautiful Yellow Underwing.

Native. Heaths; on *Calluna vulgaris*. "Generally common on heaths" (V.C.H. (1908)); appears to be less plentiful now, and is perhaps decreasing.

1. Belvedere (see *First Record*). West Wickham Wood, 1857, flying in sunshine, full-fed larva feeding on *C. vulgaris* at same time (Tugwell, *Ent. week. Int.*, 3: 11); (1891) (Wells, *Ent. Rec.*, 3: 35). Farningham Wood, several larvae, July 5, 1939 (Kidner, *Diary*). Pauls Cray Common (Fenn, in *Wool. Surv.* (1909)); fairly common, c. 1905 (S. F. P. Blyth). Chislehurst (Jones, in *Wool. Surv.* (1909)). Plumstead (Courtney, *Entomologist*, 1: 227). Bostall Common, one, August 25, 1862 (Fenn, *Diary*). Abbey Wood (Jones, in *Wool Surv.* (1909)). Bexley (Newman, in *Wool. Surv.* (1909)). Joydens Wood (J. F. Burton). Dartford Heath, larvae, 1950 (L. T. Ford); larvae fairly numerous, August 28, 1954 (C.-H.). Keston and Hayes Common, a larva, August 14, 1897; three larvae, October 8, 1919; four larvae, September 29, 1920; three larvae, September 16, 1921 (Kidner,

*Diary*); imagines frequent, 1946-47 (J. F. Burton); six imagines, May 18, 1952; three imagines, August 21, 1955 (C.-H.).

3. [Faversham] "taken by Mr. Crow, of Faversham" (Donovan, *Nat. Hist. Brit. Insects*, 7: 11). Canterbury, 1888 (Hampson, *Ent. mon. Mag.*, 37: 118). Thornden Wood, May 26, 1933 (A. J. L. Bowes, *Diary*). Oldridge Wood, c. 1946 (J. A. Parry).

6a. "I have taken it occasionally near Darenth"\*(Stephens, *Haust.*, 3: 111).

10. Ightham Common, one, August 20, 1899 (H. Elgar, in Maidstone Museum coll.); 1952 (L. W. Siggs). Seal Chart, 1905 (Adkin, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1905-06: 41); frequent, 1951, larvae on ling (A. M. Swain). Brasted Chart, July 6, 1901 (Adkin, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1901: 22); May 17, 1913, June 16, 1913, larva, September 22, 1913 (Gillett, *Diary*). Westerham, larvae (Attwood, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1937-38: 18).

11. Mid. Kent [Mereworth] (Reid, *S.E. Nat.*, 1904: 52). Wateringbury, one, 1907, in Goodwin coll. (C.-H.). Mereworth, July 27, 1912 (Gillett, *Diary*); one, May 14, 1939 (A. R. Kidner, *Diary*).

12. Ashford, July 1898 (Heitland, *Entomologist*, 31: 222). Ham Street, larvae fairly common, 1936, August 17 onwards (de Worms, *Entomologist*, 70: 88) (I have no record of occurrence there since 1936 (C.-H.)). Hothfield Common, one, May 26, 1955 (P. Cue); several larvae swept from *C. vulgaris*, September 9, 1961 (C.-H.); common, July 4, 1963 (M. Singleton).

13. Tunbridge Wells district, common, 1868 (Cox, *Entomologist*, 4 (62), ii). Groombridge (Bull, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1931-32: 59). Southborough (Morgan, *Lepidoptera of Tunbridge Wells District MS.*). Tunbridge Wells (H. E. Hammond).

14. Tenterden (Stainton, *Man.*, 1: 294). Cranbrook, one at rest, May 22, 1939 (G. V. Bull, *Diary*).

VARIATION.—My Kentish series from Hayes and Hothfield has the ground of forewing dull dark fuscous purple, and appears to conform to typical *myrtilli* L. These Kentish specimens are quite different from those of a series from Scotland, taken by me, Sidlaw Hills, Angus, July 1942, in which the markings are more distinct, and the ground of forewing is bright reddish-purple (C.-H.).

Hampson (*Ent. mon. Mag.*, 37: 118) records a ♀, bred by R. South, Canterbury, June 1888, with hindwings reduced  $\frac{2}{3}$  nat. size.

FIRST RECORD, 1775: "Belvidere wood near Earith" (Harris, *Aurelian's Pocket Companion*, 53).

#### HADENINAE

##### **Mamestra brassicae** L.: Cabbage Moth.

Native. Gardens (especially market gardens), cultivated and waste places; on cabbage. Found in all divisions.

"Generally abundant" (V.C.H. (1908)); but the records indicate that it has become generally less numerous since. A. R. Kidner (*Diary*) with reference to the Sidcup area (div. 1) from 1909-1939, has:—"Usually plentiful and sometimes abundant in larval and perfect states, especially in autumn, up to 1928, after which it appeared to have become scarcer".

The moth seems to be in two generations, occurring on the wing from about mid May to late July, and again in August and September; but the records often show little or no clear break between the broods. Occasion-

ally it has appeared much earlier, as in 1868, when one was taken in Sheppey on April 18 (Walker MS.). In 1911, A. R. Kidner noted it at Sidcup on October 16; possibly an instance of a partial third generation.

I have found the larvae in fair numbers on cabbage at Broad Oak and West Wickham (C.-H.); and A. R. Kidner records finding a larva on this at Sidcup, July 30, 1939, from which the imago emerged July 8, 1940.

VARIATION.—Tremayne (*Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1894-95: 10) exhibited one from Deal, "which had a pale yellowish-grey ground colour and very distinct dark transverse lines, the usual dark mottling being almost entirely absent".

FIRST RECORD, 1861: Lee, June 17, 1861 (Fenn, *Diary*). An earlier record by Stephens (who resided at Eltham), but which does not specify Kent, dates from 1829: "One of the most abundant of the indigenous Noctuidae, frequenting every garden, and abounding in banks and weedy hedges" (*Haust.*, 2: 194).

#### **M. persicariae** L.: Dot.

Native. Gardens, woods, waste places, etc.; on Delphinium, Convolvulus, Hazel, Birch, Poplar, Clematis, Potato. Recorded from all divisions, except 15. "Generally common" (V.C.H. (1908)).

A. A. Allen states that the moth is numerous at m.v.l. at Blackheath (div. 1), and considerably more plentiful than *M. brassicae*, particularly in 1959. This comparative numerical superiority is also shown by W. L. Rudland's records for Wye and Willesborough, where the numbers for each locality were never less, but often at least double, those of each brood of *M. brassicae*.

The larva is perhaps polyphagous on deciduous foliage. Bower (*Ent. Rec.*, 16: 335) observed that in the Chislehurst district in 1904, the larvae were such a pest in gardens that "no plant, shrub or tree—except evergreens—has escaped their ravages"; and D. F. Owen (in MS.) noted it as most abundant in the larval stage on a variety of plants, in gardens and overgrown bombed sites in the Lewisham area, in 1946-47. Jones (*Ent. week. Int.*, 10: 188) recorded the larva in the Woolwich district on Convolvulus; Kidner (*Diary*) found several larvae at Birch Wood, October 9, 1909, on Hazel, and in September 1910, several on Birch and Poplar at Darenth, and two on Clematis near Dartford. At Charlton, J. F. Burton found larvae on potato and Delphiniums.

FIRST RECORD, 1829: "Occurs throughout the metropolitan district" (Stephens, *Haust.*, 2: 196).

#### **Polia hepatica** Clerck (*tincta* Brahm): Silvery Arches.

Native. Woods; on birch, sallow. Mainly Wealden; perhaps extinct in 1.

1. Birch Wood, larvae on birch, April 1845 (Stevens, *Zoologist*, 1787); (Douglas, *Zoologist*, 3246). West Wickham, two, 1857 (Wood, *Ent. week. Int.*, 2: 109); two (Barrett, *Ent. week. Int.*, 4: 109); larvae, 1859 (Latchford, *Ent. week. Int.*, 6: 123); six larvae on birch buds, April 1861 (Fenn, *Ent. week. Int.*, 10: 196); at sugar, June 28, 1929 (Wakely, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1930-31: 75). Dartford Heath, three, 1848 (Hodgkinson, *Zoologist*, 2328). Shooters Hill Wood, one, June 22, 1862 (A. H. Jones, teste Fenn, *Diary*); Crown Woods, and Shooters Hill (West, *Ent. Rec.*, 18:

230). Bromley district (Tutt, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1888: 35; Barker, *Entomologist*, 21: 95). Lewisham, 1885 (Marriott, *Young Nat.*, 7: 79). Joydens Wood, four, July 3, 1888 (Fenn, *Diary*). Pauls Cray Common, about twenty larvae on birch, April-May 1896 (Fenn, *Diary*) (Chislehurst (*Wool. Surv.* (1909)), may refer); several (W. A. Cope). Farnborough (H. Alderson, in *Wool. Surv.* (1909)).

6. Clay Lane Wood (H. C. Huggins); larva in dead wood of birch stump under moss, February 22, 1919, imago reared (F. T. Grant). Otford, two at light, 1955 (W. B. L. Manley).

6a. Darenth Wood, found on tree trunks a few years since (Curtis, *Br. Ent.*, 248); two or three times by beating out the branches of lofty oaks (Stephens, *Haus.*, 3: 30); abundant, 1855 (Stainton, *Ent. Ann.*, 1856: 47); two, June 16, 1862 (Fenn, *Diary*); 1870 (Standish, *Entomologist*, 5: 147); July 10, 1881 (Finzi, *Entomologist*, 14: 185).

7. Wigmore Wood; Fir Grove; very uncommon (Chaney (1884-87)).

8. Folkestone\* (Ulliyett (1880)). Wye Downs (Scott (1936)). Wye, one, at m.v.l., June 24, 1955 (W. L. Rudland). Brook\*, one (C. A. W. Duffield).

10. Goodly Stock, larvae numerous on birch, April 16, 1947 (R. C. Edwards).

11. Wateringbury (E. Goodwin MS.); (V.C.H. (1908)). Hoads Wood, one, c. 1953 (P. Cue).

12. Ham Street.—A few at light, June 17-18, 1934; June 26, 1936 (A. J. L. Bowes, *Diary*); larvae on sallow shoots in spring (Scott (1936)); Long Rope, two at sugar, June 17, 1939, several at light, June 14, 1947; about a dozen at sugar and light in Long Rope and Burnt Oak, June 4-10, 1948; several at m.v.l., in Faggs Wood, July 7, 1962 (C.-H.); one, June 23, 1938 (A. H. Lanfear); June 18, 1950 (R. C. Edwards); larvae, May 6, 1960 (R. G. Chatelain).

13. Tunbridge Wells, 1892 (Beeching, *Ent. Rec.*, 3: 158); two, 1957 (L. R. Tesch, *fide* C. A. Stace). Southborough (M. M. Phipps, in Knipe (1916)).

14. Tenterden (Stainton, *Man.*, 1: 272).

VARIATION.—At meeting of South London ent. nat. Hist. Soc., on January 26, 1888, J. W. Tutt exhibited an ab. on behalf of H. Alderson, taken in the Bromley district (Barker, *Young Nat.*, 9: 56). This presumably became the holotype of ab. *suffusa* Tutt: cf. Tutt, *Br. Noct.*, 3: 70 (C.-H.).

FIRST RECORD, 1829: Darenth Wood (Curtis, *Br. Ent.*, 248).

#### **P. nitens** Haw. (**advena** Schiff.): Pale Shining Brown.

Native. Woods, chalky places (apparently preferring inland situations); foodplant unknown.

This species has shown a marked increase and spread into new areas since about 1950, and was particularly numerous in 1956.

1. Shooters Hill, one, June 25, 1863 (A. H. Jones, in *Wool. Surv.* (1909)) (Eltham (*Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1899: 76) may refer). Lee, three, June 19, one, June 21, one, June 26, 1865 (Fenn, *Diary*) (Hither Green (*Wool. Surv.* (1909)) may refer). Bexley (L. W. Newman, in *Wool. Surv.* (1909)). Farnborough (H. Alderson, in *Wool. Surv.* (1909)). Orpington, 1948 (L. W. Siggs). West Wickham, one, June 18, 1952 (R. Birchenough); ♂, in m.v. trap, June 1963 (C.-H.).

2. Sheppet, one, June 16, 1868 (J. J. Walker MS.). Dartford, ♂, at valerian, June 24, 1946 (B. K. West).

3. Blean, one, July 5, 1902, in J. Platt Barrett coll. (C.-H.).
4. Littlebourne, one at m.v.l., July 15, 1958 (G. H. Youden).
5. Westerham, 1959 (R. C. Edwards).
6. Greenhithe\* (Farn MS.). Pinden, one, 1947, three, 1949; all at light (E. J. Hare, *in litt.*); fairly common since (E. J. Hare, *personal communication*, iv.1956). Otford, at m.v.l., common, 1955, very common, 1956 (W. B. L. Manley). Eynsford, two, June 2, 1959; June 10, 1960 (R. G. Chatelain). Meopham (J. Ellerton).

6a. Darent Wood (Douglas, *Zoologist*, 3218); June 1862; one at sugar, June 22, 1864 (Fenn, *Lep. Data* MS.). Between Gravesend and Shorne, not uncommon at flowers, i.e. half a dozen any good evening, 1902-10 (H. C. Huggins). Cobham, June 10, 1912, at white campion at dusk, not uncommon (F. T. Grant).

7. Wigmore Wood; Fir Grove; Darland Hill, at sugar and at rest on trunks; "I have also taken it in my garden at New Brompton, where it seemed very partial to the flowers of the great orange lily" (Chaney (1884-87)). Near Bredgar, two or three an evening, 1920-23 (H. C. Huggins). Westwell, June 27, 1935, at valerian (A. J. L. Bowes, *Diary*); one at sugar, July 5, 1946 (Bull, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1946-47: 168); a few annually since the war (E. Scott, *personal communication*, autumn 1954).

8. Folkestone\* (Ulyett (1880)). Reinden Wood, a series exhibited on August 6, 1891 (Clark, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1891: 20). Folkestone\*, June 27, 1892 ( teste Fenn, *Diary*). Wye (Scott (1936)). Brook (C. A. W. Duffield). Near Barham, one, July 17, 1927 (E. & Y. (1949)).

11. Yalding (V.C.H. (1908)). Wateringbury, E. Goodwin took about three (W. A. Cope) (V.C.H. (1908)). Aylesford, one, June 1951, five, July 1953, two, 1955, two or three per night, June 1956; all at m.v.l. (G. A. N. Davis). Goldwell Pit, near Great Chart, one at white campion, June 27, 1955 (P. Cue). Sevenoaks Weald, one, at m.v.l., June 30, 1960 (E. A. Sadler).

12. Ashford\*, one in H. D. Stockwell coll., labelled "Ashford, 1896, Chittenden" (C.-H.). Ham Street, June 29, 1934, at light (A. J. L. Bowes, *Diary*); June 30, 1935 (R. C. Edwards); July 1956 (W. L. Rudland). Charltham, three, 1949-52 (P. B. Wacher). Wye, six, June 22-July 10, 1953, eight, June 22-July 18, 1954, ten, July 2-15, 1955, fifteen, June 19-July 14, 1956 (W. L. Rudland).

14. Knock Wood, Tenterden, two at sugar, June (1853) (Beale, *Zoologist*, 4130).

FIRST RECORD, 1851: Darent Wood (Douglas, *Zoologist*, 3218).

#### **P. nebulosa** Hufn.: Grey Arches.

Native. Woods, copses; on birch, sallow, dock, hawthorn. Fairly frequent, and recorded from all divisions except 2, 15; scarce or casual in 4, 9. "Generally common" (V.C.H. (1908)).

The larva has been found on birch and sallow at West Wickham (Huckett, *Ent. week. Int.*, 10: 117); on dock, hawthorn and birch, at Bromley, and the imagines reared (D. R. M. Long); and on dock and birch at Petts Wood (R. G. Chatelain).

4. Deal, July 6, 1891 (Fenn, *Ent. Rec.*, 2: 203).

9. Ramsgate, one at light, 1916; one, June 13, 1919 (J. W. C. Hunt).

VARIATION.—Tutt (*Br. Noct.*, 3: 68) records ab. *pallida* Tutt, from Chattenden.

FIRST RECORD, 1829: Near Darenth and Birch Woods (Stephens, *Haust.*, 3: 29).

**P. sagittigera** Hufn. (*leucophaea* View.): ssp. **britannica** Turner: Feathered Ear.

Native. Chalk downs; foodplant unknown. Fairly frequent locally along the south-western border of 8; apparently very scarce elsewhere on the chalk. Probably casual in 11, 12, 15, 16.

6. Gravesend, one taken by R. W. Bowyer, May 24 (1871) (Button, *Entomologist*, 5: 393). Halling, one, on beech trunk, 1910 (Ovenden, *Ent. Rec.*, 22: 191). Shoreham district, taken by L. W. Newman (H. C. Huggins); two taken by W. A. Cope on the rifle-range, June 1912 (C.-H. coll.).

7. Boxley, one, 1904, in E. Goodwin coll. (C.-H.); one, 1910, taken by W. A. Cope (C.-H. coll.). Hollingbourne, not uncommon, 1919-22 (H. C. Huggins). Near Ashford\*, one on a birch trunk, June 7, 1876 (Jeffery, *Ent. mon. Mag.*, 13: 64). Westwell (V.C.H. (1908)); singletons, May 26, 1933, May 23, 1952, June 21, 1954 (E. Scott). Soakham Downs, one, May 29, 1930, one on a beech trunk, May 29, 1938 (E. Scott). Broad Street, two at light, May 28, 1955 (E. Philp).

8. Brook.—Two, 1872, and many others subsequently (Parry, *Entomologist*, 6: 142, 430, 7: 16, 26: 296); ♀, knocked from grass by day, Punch Bowl, June 9, 1934 (A. J. L. Bowes, *Diary*); Devil's Kneading Trough, May 31, 1936, July 3, 1951 (H. King); one, at m.v.l., May 21, 1953 (W. L. Rudland); two, at light, May 27, 1960 (R. F. Bretherton); one, May 31, 1963, a cold night (R. G. Chatelain). Wye Crown.—1935; twenty taken, May 29, 1936; 1939 (A. J. L. Bowes, *Diary*); of regular occurrence from about May 20, mostly at light, sometimes a few at sugar; I have periodically visited the locality since 1937, and have seldom failed to see the moth (C.-H.); locally common along the Wye Downs (Scott (1950)). Crundale, two, 1926 (H. C. Huggins). Chilham, June 9, 1934, two ♀ knocked from hawthorn by day (A. J. L. Bowes, *Diary*). Folkestone\*, one taken by H. Ulliyett, 1870 (Knaggs, *Ent. Ann.*, 1871: 74). Warren; River Minnis (Webb (1891)). Near Alkham; Ewell Minnis (E. & Y. (1949)).

11. Tonbridge, two taken in the town at gas lamps (1870) (Eedle, *Entomologist*, 5: 200). Tunbridge Wells district\*, noted by R. H. Rattray and M. M. Phipps (E. D. Morgan, *in litt.*). Holt Wood, Aylesford, five at m.v. trap, 1953 (G. A. N. Davis); none seen since (C.-H.).

12. Wye, one, June 9, one, June 21, one, June 30, 1956, all in m.v. trap (W. L. Rudland).

15. Dungeness, one, June 3, 1934, by Mrs. Cole (A. M. Morley).

16. [Folkestone, one worn specimen on a fence near the Junction Station, early June 1861 (Knaggs, *Qly. J. Folkestone nat. Hist. Soc.*, 4: 74; idem, *Ent. Ann.*, 1871: 74); may have been this species.] Folkestone Town, one in m.v. trap, May 27, 1952 (A. M. Morley).

VARIATION.—Kentish examples conform to ssp. *britannica* Turner, which is recognisably distinct owing to the whiter element, particularly in the hind marginal area, and the more strongly emphasised markings; whereas those examples from abroad have the ground much tinged with pale umbreous or smoky brown (cf. Turner, *Supplement to Tutt's Br. Noct.*, 1: 284).

In R.C.K. is a very large representative series from Kent. Three of

these resemble the continental form, and are labelled: "D. Chittenden, Wye, vi.03" (1); "East Kent, F. Davis" (2).

Heath (*Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1912-13: 30) records one from Wye, 1912, "with ground colour much whiter, and markings black".

FIRST (CONFIRMED) RECORD, 1870: Tonbridge (Eedle, *Entomologist*, 5: 200).

### **Diataraxia oleracea** L.: Bright-line Brown-eye.

Native. Marshes, gardens, cultivated and waste places; on "Orache", "Sea Beet", *Thalictrum flavum*, *Artemisia absinthium*, "Restarrow", *Hypericum*, *Chenopodium*, "Persicaria", hazel, elm, *Clematis vitalba*, lupin, *Epilobium hirsutum*, *Convolvulus arvensis*. Plentiful and found in all divisions, particularly on river-banks and at the edges of salttings and marshes in 2.

Occasionally, there appears to be a partial second generation. Thus, in 1953, at Wye, W. L. Rudland noted fifty *oleracea* in his trap from May 3-August 3; then a gap, followed by a total of seven from August 14, with last appearance on October 3.

The larva is perhaps polyphagous on deciduous foliage. H. C. Huggins (*in litt.*) states that at Seasalter (div. 2), he found them "abundant on anything, especially Sea Beet and Orache", adding incidentally that they were badly infested with Tachinids. Knaggs (1870) records it on Restarrow, at Folkestone; A. R. Kidner (*Diary*) found the larva on hazel, Sidcup, October 9, 1909; and B. K. West has found it on elder, lupin, and *C. vitalba* at Dartford. A. M. Swain found larvae on *Hypericum* at Petts Wood; Ovenden (*Ent. Rec.*, 21: 33) on *Chenopodium* in the Strood district; and West (*Ent. Rec.*, 18: 230) records it on *Persicaria*. It has also been found on *C. arvense* at Crofton, and on *E. hirsutum* at Bromley, by D. R. M. Long; and on *A. absinthium* on Dartford Marshes, and *T. flavum* at Snodland, by me (C.-H.).

VARIATION.—Tutt (*Br. Noct.*, 3: 89) records ab. *rufa* Tutt, from Westcombe Park and Deal.

In R.C.K., are ab. *rufa* Tutt, one, Sheppey, bred 1899, one, "North Kent, W. Crocker, 1908"; ab. *obsoleta* Lambillion, three, Sheerness, one, Greenhithe; also an ab. with "large tooth-marks in submarginal line", one, "Brockley, bred 1890".

FIRST RECORD, 1858: Deal (Harding, *Ent. week. Int.*, 4: 197).

### **Ceramica pisii** L.: Broom Moth.

Native. Commons, heaths, saltmarshes, waste places, etc.; on bracken, broom, birch, *Aster tripolium*, *Rumex acetosella*, elm, sloe, *Diplotaxis tenuifolia*, *Lotus corniculatus*, *Galium mollugo*, *Chenopodium album*, Yarrow, "knapweed", "plantain", "dock". Frequent and recorded from all divisions, except 9. "Generally common in larval state" (V.C.H. 1908).

The imago appears from about the third week in May and often continues well into July. Newman (*Ent. Rec.*, 23: 276) records one that came to sugar (at Bexley) in perfect condition, on September 15, 1911, probably a second brood specimen.

The larva may be polyphagous on deciduous foliage. On *R. acetosella*, Bostall Woods (A. A. Allen); *L. corniculatus*, Bromley, September 4, 1949 (D. Lanktree); *D. tenuifolia*, Charlton, September 24, 1958 (J. F. Burton);

bracken, Tunbridge Wells (Knipe (1916)); on railway banks at Sidcup, on knapweed, yarrow, plantain, sallow, dock (A. R. Kidner, *Diary*); on *C. album* and *A. tripolium*, Stoke Salttings, September 20, 1962, and on *G. verum*, sloe, and bracken at Downe (C.-H.); common on bracken, birch, broom, Dartford Heath, also on *A. tripolium*, Dartford Marshes (B. K. West).

VARIATION.—Ab. *splendens* Steph., four, Broad Oak, 1946-52 (C.-H.).

Hawkins (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1932-33: 74) exhibited a specimen 'labelled "Dartford, June 1905" and apparently very near var. *pallens* Stdgr.'; and another from Folkestone, stated to be referable to ab. *pallens* Tutt, was exhibited by Morley (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1933-34: 50).

In R.C.K., is ab. *splendida* Robson, one, "N. Kent, W. Crocker, 1909"; ab. *pallida* Tutt, ♀, "Herne, coll. Battley".

FIRST RECORD, 1720: The larva "found on the female Fearn, in a Wood by Charlton in Kent" (Albin, *Nat. Hist. English Insects*, facing pl. 32)..

#### **Hada nana** Hufn. (**dentina** Esp.): Shears.

Native. Downs, rough uncultivated fields, shingle beach; foodplant unknown. Recorded from all divisions, but with a marked preference for maritime shingle and open uncultivated areas on chalk soils. Plentiful in 8, 15. The moth appears about the third week in May, and continues until late June or into July, with what appears to be a partial second generation in August.

1. West Wickham (Allchin, *Ent. week. Int.*, 7: 204); several, 1951 (E. J. Trundell); July 11, 1963 (R. Birchenough). Westcombe Park; St. Paul's Cray; Lewisham; Eltham; Blackheath; Greenwich; Lee; Erith (*Wool. Surv.* (1909)). Chislehurst, 1906 (1), 1908 (1), 1909 (2) (S. F. P. Blyth). Hayes; Bexley (Carr, *Entomologist*, 27: 170, 32: 40). Bickley (Rait-Smith, *Ent. Rec.*, 27: 170). Sidcup, mostly on trees, 1912 (1), 1913 (1), 1924 (several), 1926 (1), 1933 (1) (A. R. Kidner). Petts Wood, 1946, 1948 (A. M. Swain). Dartford Heath (B. K. West). Bromley, 1960 (2), 1962 (1), 1963 (9) (D. R. M. Long).
2. Sheppet, two, June 30, 1937 (A. H. Lanfear).
3. Whitstable (P. F. Harris). Broad Oak, two, May 30, 1952 (C.-H.).
4. Sandwich, June 6, 1934 (A. J. L. Bowes); two, June 16, 1950 (C.-H.).
5. Chevening, 1912, 1913, 1916, 1917 (Gillett, *Diary*). Biggin Hill, one, May 20, 1953 (C.-H.).
6. Gravesend (H. C. Huggins). Pinden (E. J. Hare).
- 6a. Chattenden Roughs, one, June 28, 1869 (Walker MS.); June 14, 1913 (F. T. Grant).
7. Wigmore Woods; Fir Grove (Chaney (1884-87)). Faversham; Sittingbourne (H. C. Huggins). Boxley, 1953 (A. H. Harbottle).
9. Margate, on fences, 1915 (2), 1924 (1), 1931 (1) (H. G. Gomm, *Diary*).
10. Brasted (R. M. Prideaux). Sevenoaks (Gillett, *Entomologist*, 53: 23).
11. Aylesford (G. A. N. Davis). Mereworth (Morgan, *Lep. Tunbridge Wells*, MS.).
12. Orlestone Woods, August 5, 1945 (1), June 1948 (1), June 1951 (several) (C.-H.). Ashford Town (P. Cue). Willesborough, 1954 (1), 1955 (1), 1956 (2); Wye, 1953 (1), 1954 (1), 1955 (1) (W. L. Rudland).
13. Tunbridge Wells, one (Beeching, *Ent. Rec.*, 2: 230). Ramslye and High Rocks, Tunbridge Wells (Morgan, *Lep. Tunbridge Wells* MS.).

14. Sandhurst (G. V. Bull).
16. Folkestone Town (A. M. Morley).

VARIATION.—As far as I can judge, the majority of Kentish examples I have seen approximate to nymotypical *nana* Hufn.; one, Bickley, 1914 (*Ent. Rec.*, 27: 170) may be ab. *latenai* Pierr., and I have several from various localities that approach this; and others that are transitional to ab. *leucostigma* Haw.; ab. *ochrea* Tutt is recorded (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1938-39: 34) for the county but is evidently uncommon, and I have two apparently referable to this from Wye (div. 8) (C.-H.).

FIRST RECORD, 1809: "Habitat in Cantio at rarissime, tempore obliito. Exemplaria duo solum vidi" (Haworth, *Lepidoptera Britannica*, 2: 198).

**Scotogramma trifolii** Hufn. (**chenopodii** Schiff.): Nutmeg.

Native. Marsh-sides, gardens, bombed-sites, derelict land (mainly in towns), waste places; on *Chenopodium alba*. Found in all divisions. "Generally common; sometimes abundant" (V.C.H. (1908)).

The moth is probably most frequent in 2. Mathew (*Entomologist*, 23: 34) records that at Marine Town, Sheerness, the larvae were in swarms; and at Strood, Ovenden (*Ent. Rec.*, 16: 294, 21: 33) found them in abundance, on *Chenopodium*. It has also been seen in great plenty elsewhere, on bombed-sites. Thus in 12, J. A. Parry observed that the species had much increased about 1946 in the City of Canterbury, where bombed-sites had been colonised by *Chenopodium*, and upon which he found the larvae plentifully; likewise in 1, at Lewisham and its neighbourhood, D. F. Owen noticed it in abundance on waste ground.

On a small piece of waste ground by the roadside in the heart of Bromley, I noted several larvae on *Chenopodium alba*, October 13, 1963 (C.-H.).

FIRST RECORD, 1829: Stephens, *Haust.*, 2: 196. The first positive Kentish occurrence, however, dates from 1858: Folkestone, July 24-August 1, 1858 (Tompkins, *Diary*).

**Hadena w-latinum** Hufn. (**genistae** Borkh.): Light Brocade.

Native. Woods, commons, etc.; on broom.

1. Noted from many localities in this division. Recent records are:— Dartford Heath, three larvae on broom, 1948 (B. K. West). West Wickham, 1952 (E. Trundell). Abbey Wood, 1952 (A. J. Showler). Bexley, several, May 30-June 13, 1952 (A. Heselden). Petts Wood, one, 1950 (E. Evans). Orpington, 1948-53 (L. W. Siggs); one, 1958 (R. G. Chatelain). Lee, not common (C. G. Bruce). Bromley, 1959 (1), 1960-61 (none), 1962 (2) (D. R. M. Long).

2. Kingsferry Marshes, two, June 25, 1937 (A. H. Lanfear).

3. Whitstable (P. F. Harris). Herne Bay, 1946 (D. G. Marsh). Broad Oak, several at light, 1946, 1952 (C.-H.). Eddington, frequent, 1948, "very plentiful", at light, June 2, 1950 (D. G. Marsh, *Diary*).

4. Sandwich, two, June 3, 1937 (A. H. Lanfear); (E. & Y. (1949)). Ickham, rather scarce, 1954-59 (D. G. Marsh).

5. Chevening, several, May 20-31, 1914, 1917 (Gillett, *Diary*). Halstead (R. E. Frampton, teste S. Wakely). Westerham (R. C. Edwards). Biggin Hill, one, 1953 (C.-H.).

6. Shoreham (Carr, *Entomologist*, 33: 47). Otford (Adkin, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1902: 50). Gravesend (H. C. Huggins). Pinden, one (E. J. Hare).

6a. Darent Wood (see *First Record*). Cobham, June 10, 1912; Chatten-den, June 1, 1925 (F. T. Grant).

7. Wigmore Wood; Fir Grove; very uncommon (Chaney (1884-87)). Westwell (Scott (1950)). Boxley (A. H. Harbottle).

8. Folkestone\*, scarce (Knaggs (1870)). Farthingsole Farm, Elham, nine, at sugar, June 7-8, 1924; Fryarne Park Wood, eight, at sugar, June 6, 1924 (W. E. Busbridge, *Diary*). Whinless Down; River (E. & Y. (1949)). Wye Crown, at sugar, June 1-2, 1935, June 1, 1936 (A. J. L. Bowes); 1948 (C.-H.). Canterbury; Crundale (J. A. Parry). Stowting; Brook (C. A. W. Duffield).

9. Margate (Barrett, *Entomologist*, 38: 214). Ramsgate, numerous, June 22, 1910 (J. W. C. Hunt). Birchington, one, c. 1930 (C.-H.).

11. Yalding; Wateringbury (V.C.H. (1908)). Tonbridge (Rattray, *Entomologist*, 45: 80). Benenden (G. V. Bull). Hoads Wood (Scott (1950)). Aylesford, c. 1953 (G. A. N. Davis).

12. Ham Street, at light, June 17, 1934 (A. J. L. Bowes). Charlham (P. B. Wacher). Ashford Town (P. Cue). Wye, May 26-July 3, 1953 (53), May 20-June 28, 1954 (13), May 27-July 9, 1955 (15), May 15-June 23, 1956 (22); Willesborough, May 11-July 7, 1954 (19), June 8-July 12, 1955 (13), May 25-June 19, 1956 (13) (W. L. Rudland). Willesborough, one, 1959 (M. Singleton). West Ashford, one, 1960 (M. Enfield). Orlestone Woods, 1950, 1956; Brook, 1960 (R. F. Bretherton).

13. Tunbridge Wells (Beeching, *Ent. Rec.*, 2: 229, 3: 158). Bedgebury (G. V. Bull). Goudhurst, common (W. V. D. Bolt, *in litt.*, 1961).

14. Hawkhurst, common (B. G. Chatfield). Iden Green, common (H. Boxall).

15. Dungeness, June 2, 1935 (A. J. L. Bowes); one, 1938 (C.-H.); a few, June 6-7, 1950, a few, May 31, 1954 (E. C. Pelham-Clinton); 1956 (R. F. Bretherton); May 30-July 8, 1962 (325), all in m.v. trap, with maximum (72) on June 12 (R. E. Scott). Lydd-on-Sea (Wakely, *Ent. Rec.*, 71: 273).

16. Folkestone, Town (Morley, *Ent. Rec.*, 64: 170).

FIRST RECORD, 1829: "A few at Darent-wood, in different years . . . not very common; but found throughout the metropolitan district" (Stephens, *Haust.*, 2: 183).

#### **H. suasa** Schiff. (*dissimilis* Knoch): Dog's Tooth.

Resident; suspected immigrant. Salt-marshes, waste places, etc.; [on *Chenopodium*.]

Until comparatively recently, the distribution of this species in Kent was that of a local maritime insect, more or less restricted to the salt-marshes of division 2. Since 1944, however, there have been records of its occurrence in many new and unusual localities scattered throughout the county. Most remarkable was the appearance of the moth in unprecedented numbers in East Kent in 1947; and the records, particularly those for 1945 and 1947, indicate at least one large immigration, apparently from some locality where there is a good deal of melanism.

1. Birch Wood, ♀, taken beginning of July 1818 (Stephens, *Haust.*, 2: 193). Lee, occasionally at light (C. Fenn, *in Wool. Surv.* (1909)). St. Mary Cray, one, 1955 (R. G. Chatelain). Lee, one, June 26, 1955 (C. G. Bruce). Abbey Wood, one, 1957 (A. J. Showler). [West Wickham (de Worms, *Lond. Nat.*, 1954: 85), is unconfirmed (E. Trundell).]

2. Gravesend, July 11, 1865 (Fenn, *Diary*). Near Shorne Mead Fort, June 19, 1912, by H. Huggins, senior (F. T. Grant). Cliffe, one, July 4, 1874

(Fenn, *Diary*) (Chaney (1884-87)). Greenhithe Marshes, taken by A. B. Farn, 1887 (Fenn, *Diary*). Greenwich (V.C.H. (1908)). Strood, larvae abundant, 1904 (Ovenden, *Ent. Rec.*, **16**: 294). Rochester, ova on leafless stems of previous years *Chenopodium*, 1906 (Ovenden, *Ent. Rec.*, **19**: 230). Isle of Grain, 1908 (Ovenden, *Ent. Rec.*, **21**: 32). Dartford, one, at ragwort, August 11, 1946; three, at honeydew, July 1950 (B. K. West). Isle of Sheppey, June 23, July 1, 1938, July 27, 1946 (R. C. Edwards); one, near Elmley, June 25, 1955 (C.-H.). Kingsferry Marshes, one, June 25, 1937 (A. H. Lanfear). Faversham (H. C. Huggins); about 30 on Nagden Marshes, June 25, 1952, flying and at rest on vegetation, including several pairs in cop., and two ♀♀ with batches of ova on dead stems (C.-H.). Cliffe Marshes, August 21, 1960 (R. G. Chatelain).

3. Broad Oak, one, at sugar, August 4, 1945; four, at sugar, including two ab. *confluens* Evers., August 2, 1948 (C.-H.). Whitstable, August 10, 1948 (P. F. Harris). Eddington, Herne Bay, three, 1948, including a ♂ at light, May 7; one, 1949 (D. G. Marsh). Blean Wood, July 29, 1949 (G. H. Youden).

4. Deal (Tutt, *Br. Noct.*, **3**: 88). Ebbsfleet, 1937 (A. G. Peyton, teste A. J. L. Bowes). Sandwich, five at sugar, August 1, 1948 (C.-H.); three, 1949, one, 1950 (D. G. Marsh); one at sugar, June 28, 1954 (W. D. Bowden); one, 1954 (B. K. West). Worth, 1961 (T. W. Harman). Ickham, not common, 1954-59 (D. G. Marsh).

5. Downe, one, at m.v.l., June 9, 1956 (C.-H.).

6. Pinden, common since 1946 (E. J. Hare, *in litt.*, xii.1949); annually since 1946 (E. J. Hare, *personal communication*, iv.1956).

6a. Darenth (Carrington, *Entomologist*, **12**: 212). Chattenden, a dark specimen at sugar, June 21 (1896) (Tutt, *Ent. Rec.*, **8**: 186).

7. Wigmore Wood, one at sugar (Chaney (1884-87)). Westwell, one, August 14, 1949 (E. Scott). Whitehill, one, July 1958 (P. Cue).

8. Folkestone\*, June 1892 (Russell James, *Entomologist*, **26**: 50). Wye, one at sugar, July 7, 1946 (H. King); one, September 2, 1947 (G. V. Bull). Brook, common, September 1947 (C. A. W. Duffield). Shepherdswell, several, 1947 (E. & Y. (1949)). Dover, fairly frequent in m.v. trap in garden in the town (G. H. Youden, *in litt.*, 16.xii.1963).

9. Ramsgate, one, July 1, 1910; Broadstairs, one, July 21, one, July 29, 1948 (J. W. C. Hunt). St. Peters, one, May 20, one, May 28, one, August 10, 1956, one, at m.v.l., September 25, 1959 (W. D. Bowden).

11. Aylesford, c. 1953 (G. A. N. Davis).

12. Chartham, six, 1949 (P. B. Wacher). Willesborough, three, August 2-5, 1954, two, May 31, 1956; Wye, one, August 13, 1955, one, May 31, one, August 15, one, September 10, 1956 (W. L. Rudland). Ashford Town, one, in garden, July 14, 1956 (P. Cue).

14. Knock Wood, Tenterden, c. 1855 (Beale, *Diary*) (Stainton, *Man.*, **1**: 276, refers). Sandhurst, one, at sugar, August 2, 1948 (G. V. Bull).

15. Dungeness, two, August 12, 1932, one, August 5, 1934, several. August 5, 1945, one, September 11, 1947 (A. M. Morley); twenty-four taken, August 1, 1945 (A. Richardson); a few, August 5, 1945 (de Worms, *Entomologist*, **79**: 45); abundant at sugar, August 27-30, 1947 (Richardson, *Entomologist*, **81**: 110); at sugar in variety and profusion, August 30, September 3, 1947 (H. King); September 6, 1947 (R. C. Edwards); June 30-July 3, 1954 (R. F. Bretherton); one, in m.v. trap, June 11, 1962 (R. E. Scott). Newchurch, one, at sugar, August 18, 1947; St. Mary-in-the-Marsh, one, at car lights, July 31, 1948 (P. le Masurier). Appledore, June 25, 1956 (P. Cue).

16. Folkestone Town, ♂, April 27, 1948 (Morley, *Entomologist*, 81: 178); one, May 17, 1952, five, July 29-August 9, 1953, ten, August 3-23, 1955, one, June 19, four, August 23-September 2, 1956, one, August 4, 1958, one, August 25, 1962, all in m.v. trap (A. M. Morley). West Hythe, three, August 28, three, September 4, 1947, including two ab. *confluens* Evers. (*Bull. Proc. S. Lond. ent. nat. Hist. Soc.*, 1948-49: 15); September 2, 5, 1947 (H. King). Sandgate, one, 1961 (N. Reay-Jones).

VARIATION.—Generally speaking, specimens noted since 1944, away from the species' normal habitat, have been comparatively small and with a strong tendency to melanism.

A. Richardson (*in litt.*) briefly classified those taken by him at Dungeness in 1945 and 1947, as "dark" (these conform to fig. 1c in Barrett, *Br. Lep.*, 4, plt. 157, and approximate to ab. *confluens* Evers.), "medium" (intermediate between figs. 1 and 1a, in Barrett, *loc. cit.*), and "light" (approximating to fig. 2, in South, *Moths Br. Isles* (1907), plt. 121); and gives as follows some indication of their relative frequency:—August 1, 1945: "dark" (8), "medium" (4), "light" (10); August 27-30, 1947: "dark" (58), "medium" (27), "light" (22). He confirms that "on the whole the specimens are small".

Tutt (*Br. Noct.*, 3: 88) records ab. *w-latinum* Esp., from Deal and Strood; and in R.C.K., is ab. *laeta* Reuter, one, "Sheppey, 26.6.34, B. W. Armstrong".

FIRST RECORD, 1809: "Habitat in Cantio, at valde infrequens; tempore oblitio" (Haworth, *Lepidoptera Britannica*, 2: 190).

#### **H. thalassina** Hufn.: Pale-shouldered Brocade.

Native. Mainly woods; foodplant unknown. Of frequent occurrence, but apparently never plentiful. Recorded from all divisions, except 2, 9, 15. Few records for 3-6, 7, 10, 13-14, 16. "Generally common" (V.C.H. (1908)).

3. Blean Woods, one, May 31, 1866 (Fenn, *Diary*). Bigbury Wood, one, at sugar, 1895 (S. Wacher MS.). Whitstable, one, June 19, 1938 (P. F. Harris).

4. Deal, one, 1891 (Fenn, *Ent. Rec.*, 2: 203). Sandwich, one, July 2, 1948 (G. H. Youden). Ickham, one or two only, 1954-59 (D. G. Marsh).

5. Chevening, 1914, 1917 (Gillett, *Diary*). Westerham (R. C. Edwards).

6. Greenhithe (Farn MS.). Gravesend (H. C. Huggins). Eynsford, June 19, 1960 (R. G. Chatelain).

7. Fir Grove; Wigmore Wood (Chaney (1884-87)). Westwell, June 4, 1951; June 23, 1954 (E. Scott).

10. Sevenoaks, June 12, 1922 (Gillett, *Diary*).

13. Tunbridge Wells, 1892 (Beeching, *Ent. Rec.*, 3: 158); (E. D. Morgan). Goudhurst (W. V. D. Bolt).

14. Sandhurst (G. V. Bull).

16. Folkestone, July 1955 (R. W. Fawthrop, *fide* A. M. Morley).

VARIATION.—Of ab. *humeralis* Haw., Tutt (*Br. Noct.*, 3: 93) states: "This grey form is not at all uncommon in the various localities in Kent in which I have collected".

FIRST RECORD, 1829: "... found throughout the metropolitan district" (Stephens, *Hast.*, 2: 183).

#### **H. contigua** Schiff.: Beautiful Brocade.

Native. Woods, heaths; on birch, oak, "brake-fern", "wild plum", *Solidago virgaurea*. Very scarce nowadays, but apparently less so formerly.

1. Birch Wood (Douglas, *Zoologist*, 3246). West Wickham, bred May 24, 1861, from larva (Huckett, *Ent. week. Int.*, **10**: 117). Blackheath (West, *Ent. Rec.*, **18**: 230). Eltham (Jones, in *Trans. Cy. Lond. ent. Nat. Hist. Soc.*, 1899: 77) (Shooters Hill (Fenn, in *Wool. Surv.* (1909)) may refer). Joydens Wood formerly (Fenn, in *Wool. Surv.* (1909)) (Bexley (Jones, in *Wool. Surv.* (1909)) may refer). Dartford (Farn MS.). Dartford Heath, ♀, on bramble blossom, July 8, 1935† (B. K. West). Bromley, one c. 1949† (W. A. Cope).

3. Thornden Wood, one, at sugar, June 10, 1865 (Fenn, *Diary*). Blean, two, 1902, one, 1903; in J. Platt Barrett coll.† (C.-H.).

6. Greenhithe, in moth trap (Farn MS.) (V.C.H. (1908) probably refers). Pinden, two, June 1956 (Hare, *fide de Worms, Lond. Nat.*, 1959: 102).

6a. Darent Wood, 1844 (Douglas, *Zoologist*, 687); 1859 (Harding, *Ent. week. Int.*, **6**: 75); July 4, 1860 (Fenn, *Ent. week. Int.*, **9**: 59); bred 1861, from larva (Huckett, *Ent. week. Int.*, **10**: 117); five, 1862, two, May 30, 1863 (Fenn, *Diary*); larvae on golden-rod, 1864 (Meek, *Ent. mon. Mag.*, **1**: 191); larva on brake-fern, September 26, 1874 (Fenn, *Diary*); July 10, 1881 (Finzi, *Entomologist*, **14**: 185); a larva, September 23, 1920 (A. R. Kidner, *Diary*); a larva on wild plum, October 10, 1925, imago reared (F. T. Grant).

7. Wigmore Wood, very uncommon (Chaney (1884-87)).

8. Folkestone\* (Ulliyett (1880)) (V.C.H. (1908) probably refers). Wye\*, two in R.C.K., presumably taken by F. J. Hanbury, are labelled "F.J.H. Wye 5.93" (C.H.).

11. Yalding (V.C.H. (1908)). Wateringbury, one in E. Goodwin coll., undated† (C.-H.). Mereworth Wood, on larch trees in the Lord's Walk (W. A. Cope). Holt Wood, Aylesford, one in m.v. trap, 1953, taken by G. A. N. Davis† (C.-H.).

Note: "East Kent", 1899 (Porritt, *Ent. mon. Mag.*, **35**: 210) cannot be located.

FIRST RECORD, 1844: Darent Wood (Douglas, *Zoologist*, 687).

#### **H. dysodea Schiff. (*chrysozona* Borkh.): Small Ranunculus.**

Resident, apparently extinct. Gardens, gravel pits, waste places; on *Lactuca virosa*, "*Sonchus*". Formerly rather plentiful locally, with a wide range in Kent, more or less maritime or sub-maritime in character. No known occurrence since 1909.

1. Lewisham, two, July 5, one, July 23, 1845, both at light (Stainton, *Zoologist*, 1194); one at light, July 3, 1846 (Stainton, *Zoologist*, 1790). [Plumstead], 1857, more than thirty specimens captured (Purnell, *Ent. week. Int.*, **2**: 123).

2. Chatham.—"This moth was not uncommon in some years in my garden at New Brompton, flying at dusk over the flowers of candy-tuft, orange lily, etc. I have never seen it in woods or the open country" (Chaney (1884-87)). Near Sheerness, 1871, rare, at rest and flying at dusk (Walker, *Ent. mon. Mag.*, **8**: 185).

4. Deal\*, 1858 (Harding, *Ent. week. Int.*, **4**: 141); 1860 (Harding, *Ent. week. Int.*, **8**: 155).

6. Northfleet, June 1848, five at flowers in garden (Hodgekinson,

*Zoologist*, 2328). Dartford.—Fenn (*Diary*) had a locality for *dysodea* between Dartford and Darenth which he described in 1890 as "the gravel-pit on the Darenth road close to the Brent cricket ground"; on July 25, 1874, he took over thirty very young larvae there on "wild lettuce" (*L. virosa*), and writes that on August 7, 1875, with A. H. Jones, he carefully searched every plant of this: "I found nothing but Albert got four all on one plant and clinging to the stems just under the flowers". Fenn's subsequent visits to the locality failed to produce any more. "Dartford, bred 1894", six so labelled in R.C.K.; "Dartford, 1909", one so labelled in S. Lond. Ent. Nat. Hist. Soc. coll. (C.-H.).

6a. Darenth Wood.—"I have taken many specimens at Darenth-wood" (Stephens, *Haust.*, 3: 32). "On post, Darenth Wood, 12.7.73", one so labelled in Meldola coll. (Woodforde, *Entomologist*, 54: 93). Darenth Wood, two, 1896; in Hope Dept., Oxford (R. F. Bretherton, *in litt.*).

8. Folkestone\*—"Flying at dusk, larva feeds on *Sonchus*" (Knaggs (1870)).

9. Margate.—At meeting of S. London Ent. Nat. Hist. Soc., on November 4, 1875, Messrs. Moor and Gibbs exhibited *dysodea* "Margate, 1875" (*Ent. mon. Mag.*, 12: 167).

FIRST RECORD, 1829: Darenth Wood (Stephens, *Haust.*, 3: 32).

**H. bicolorata** Hufn. (**serena** Schiff.) ssp. **leuconota** Ev.: Broad-barred White.

Native. Downs, railway banks, shingle beach, etc.; on "Hawkweed". Found in all divisions, but chiefly on chalk soils, and shingle (in 15). "Generally common" (V.C.H., 1908).

The moth is mostly found at rest on fences and tree-trunks; is occasionally noted at light and at flowers; but is seldom seen at sugar. It normally appears from about mid-June to early August, but in 1948, one occurred at light at Eddington (division 3), on May 7 (D. G. Marsh, *Diary*). At Dungeness in 1962, R. E. Scott noted it in his m.v. trap from June 16-August 1, with maximum (20) on July 13.

The larva has been noted as follows:—Sidecup (on railway bank), August 12, 1917 (2), August 25, 1922 (4), August 26, 1923 (several), plentiful from end September 1924, September 1925, September 1927 (several), September 25, 1931 (2, half-grown) (A. R. Kidner); Dartford Marshes, one, September 23, 1951 (J. F. Burton). None of the aforementioned records specify foodplant; Fenn (*Diary*) wrote, however, that on the railway bank at Grove Park in 1886, "the larva of *H. serena* was very common on various hawkweeds", on August 3; and at this same locality, "a few larvae of *serena* were still noticed on the Hawkweed", on August 30.

VARIATION.—British specimens are referable to ssp. *leuconota* Ev., which is diagnosed as having the base and outer area of forewing and the head and thorax whiter. Certainly many Kentish specimens have the ground pure white, contrasting sharply with the dark central band, and are quite different from the greyish, more unicolorous examples that I have seen in North France and Belgium (C.-H.).

In R.C.K. is ab. *albicans* Spul., one, "N. Kent, July 1923, L. W. New-

man".

FIRST RECORD, 1829: Dartford, June 1819, on a pollard and rotten ash trunk, several dozens of the insect reposing thereon (Stephens, *Haust.*, 3: 33).

**H. albimacula** Borkh.: White Spot.

Native. Shingle beach, chalky places; on *Silene nutans*. Now mainly in 15, though formerly plentiful in 8. Probably casual in 1, 6a, 12.

An imago taken at Dungeness by A. G. Riddell, September 1, 1933 (A. M. Morley), appears to have been a partial second generation specimen.

1. Birch Wood (see *First Record*). [(Birch Wood, larvae found in 1873 (1907, South, *Moths Br. Isles*, 1: 249; and repeated in subsequent editions). South gives no authority for this statement, but I strongly suspect it is based upon his having mis-read Barrett, *Br. Lep.*, 4: 247-248 (C.-H.))]

6a. Shorne Ridgeway, one at light, July 30, 1958 (E. E. J. Trundell).

8. Dover-Folkestone.—Two taken near Folkestone, 1874, by W. Purdey (Meek, *Entomologist*, 7: 165); six, taken one evening by Mr. Blackall (Ullyett, *Ent. mon. Mag.*, 12: 157); larvae common, 1881, scarce 1882 (Tugwell, *Entomologist*, 15: 205); W. H. Tugwell said that one season he found over 300 larvae at Lydden Spout (Fenn, *Lep. Data MS*); Shakespeare Cliff, one, June 11; two, June 12, 1899; one, June 14; one, June 16, 1900 (Stockwell, *Diary*); St. Margaret's Bay (Barrett, *Lep. Br. Isles*, 4: 248); 1922; larvae common, 1927 (H. C. Huggins); Folkestone Warren, common (V.C.H. (1908)); Folkestone, 1912 (F. A. Small coll.); Langdon Hole, pre. 1914 (E. & Y. (1949)); Dover Cliffs, larvae common, 1932 (J. H. B. Lowe); Dover Town, one, June 21; one, June 22, 1951; both in m.v. trap in garden (G. H. Youden).

12. Willesborough, one worn specimen in m.v. trap, July 4, 1955 (W. L. Rudland).

15. Dungeness.—1927 (H. C. Huggins); sixty-four sitting on posts, June 26, 1930 (Morley (1931)); sits on posts by day, at night flies around *S. nutans* and sometimes comes to light, but apparently not to sugar; the larvae are usually found in fair numbers in July; have never failed to find the moth when there at the right time, i.e. about June 12; it was particularly numerous on June 18, 1938, when about forty were noted by A. M. Morley and myself, including many at light (C.-H.); abundant, June 30-July 3, 1954 (R. F. Bretherton); 1962, in m.v. trap, June 10-July 17, maximum numbers on June 28 (56) and July 2 (57), with six on July 17 (R. E. Scott).

Note.—The moth appears to be confined to the areas about the old lighthouse, the Long Pond, the old level-crossing (now destroyed), and extending to Lydd-on-Sea Halt. I have no knowledge of its having been taken at Greatstone, Lydd Town, or the Hope and Anchor (C.-H.).

16. Folkestone.—One on the Lower Road, June 23, 1874 (Poulton, *Entomologist*, 7: 177); one, 1951 (Morley, *Ent. Rec.*, 64: 171); one, in the town, 1955, by R. W. Fawthrop; also, some half dozen altogether in m.v. trap in garden in the town, by A.M.M., 1951-58 (A. M. Morley, *in litt.*, 16.xii. 1959).

VARIATION.—Barrett (*op. cit.*, 4: 245) records "a slight difference in general colour between specimens found on the Kentish coast and those from Portsmouth district (Hants), the latter being of a rather lighter purple-brown".

A ♂ taken by me, Dungeness, May 31, 1952, has the reniform and orbicular joined under one encirclement (C.-H.).

FIRST RECORD, 1829: A unique specimen in the British Museum, "taken by Mr. Bydder, on a gate near Birch-wood, I believe, in June 1816" (Stephens, *Haust.*, 3: 27).

**H. conspersa** Schiff. (**nana** Rott.): Marbled Coronet.

Native. Downs, rough fields, shingle beach, etc.; on *Silene cucubalus*, *S. maritima*. Mainly distributed on the chalk; and locally fairly numerous in 15.

1. Dartford Heath (Fenn, in *Wool. Surv.* (1909)). Bexley (Newman, in *Wool. Surv.* (1909)). West Wickham, twelve larvae on *S. cucubalus*, 1947, imagines reared (C.-H.). Dartford (B. K. West). Petts Wood (A. M. Swain). Orpington, 1953 (L. W. Siggs). Blackheath, one, in m.v. trap (A. A. Allen). Lee, 1956-62, one or two annually at m.v.l. (C. G. Bruce). Orpington, in m.v. trap, May 26, July 3, 1963 (2) (R. G. Chatelain).

2. Dartford (B. K. West).

4. Sandwich Bay, one, May 27, 1954 (W. D. Bowden). Ickham (D. G. Marsh).

5. Knockholt (G. V. Bull). Polhill, larvae common on *S. cucubalus* (S. F. P. Blyth). Westerham (R. C. Edwards). Chelsfield, 1950 (A. M. Swain). High Elms, one, July 23, 1963 (R. G. Chatelain).

6. Near Northfleet\*, three, 1848 (Hodgkinson, *Zoologist*, 2328). Greenhithe\* (Farn MS.). Clay Lane Wood, June 13, 1912; Birling, June 15, 1912; Gravesend, June 19, 1916 (F. T. Grant). Ryarsh, one, 1936 (J. Fremlin). Pinden (E. J. Hare). Eynsford, one, June 21, 1959; June 19, 1960 (R. G. Chatelain).

6a. Darenth Wood (Curtis, *Br. Ent.*, 177); many taken (Stephens, *Haust.*, 3: 26); one, June 7, 1865; July 13, 1883 (Fenn, *Lep. Data MS.*); (L. T. Ford). Cobham, May 8, 1912 (F. T. Grant).

7. Darland Hill; Wigmore Wood; Burham (Chaney (1884-87)). West well (Scott (1936)).

8. Deal\* (Harding, *Ent. week. Int.*, 6: 124); bred from larvae (Sheldon, *Proc. S. London ent. nat. Hist. Soc.*, 1886: 44). Dover (Stonestreet, *Ent. week. Int.*, 10: 186). Folkestone\* (Ulliyett (1880)). Kingsdown (Carr, *Entomologist*, 35: 246). Petham (H. C. Huggins). Crundale (J. A. Parry). Bridge (R. Gorier). Adisham. larva on *S. cucubalus*, 1949 (C.-H.). Ewell Minnis, June 4, 6, 15, 1935; Dover Cliffs, June 29, 1935 (J. H. B. Lowe). Elham (W. E. Busbridge). Wye; Brook (Scott (1936)).

9. Margate, one, June 3, 1923 (H. G. Gomm, *Diary*). St. Peter's, June 27, 1957, at m.v.l. (W. D. Bowden, *Diary*).

11. Wateringbury (V.C.H. (1908)). Aylesford (G. A. N. Davis). Great Chart, c. 1953 (P. Cue).

12. Chartham (P. B. Wacher). Ashford, c. 1953 (P. Cue). Wye, singletons, May 31, June 23, July 10, 1956; Willesborough, singletons, June 2, July 20, 30, 1956 (W. L. Rudland).

15. Dungeness, larvae on *S. maritima* (A. J. Wightman); July 26, 1935 (A. J. L. Bowes); (G. V. Bull); several, June 6-7, 1950 (E. C. Pelham-Clinton); June 3, 1950; June 30-July 3, 1954; ten, July 27, 1956 (R. F. Bretherton); one, August 3, 1951; several, May 31, 1952, all at m.v.l. (C.-H.); August 5, 1955 (de Worms, *Entomologist*, 89: 93); many in m.v. trap, June 1-August 30, 1962, with maximum of 44 on June 28 (R. E. Scott).

16. Folkestone Town (A. M. Morley).

FIRST RECORD, 1827: Darenth Wood (Curtis, *Br. Ent.*, 177).

**H. compta** Schiff.: Varied Coronet.

Resident. Gardens, chalk downs; on *Dianthus barbatus*, *Silene cucubalus*.

The species was found in numbers in 1948 in the town of Dover, since when it has gradually extended its range throughout much of the eastern half of the county, but although apparently still spreading, has not yet reached West Kent (v.-c. 16) so far as is known. There are very few authenticated records of the occurrence of *compta* in Britain prior to 1948, and it is noteworthy that the earliest of these should also be for the Dover district.

Normally single brooded, but in 1956, G. H. Youden took one in his m.v. trap in Dover in perfect condition, on October 14.

3. Herne Hill, three pupae dug up in garden by John Knowler in 1957, from which a moth was reared, the others dried up (F. Bickerstaff, *in litt.*).

4. Ickham, larvae on Sweet William (*D. barbatus*), 1954 (G. H. Youden); numerous at m.v.l., July 1956 (Marsh Proc. S. Lond. ent. nat. Hist. Soc., 1956: 36) (Canterbury, 1956 (Scott, *Trans. Folkestone nat. Hist. Soc.*, 1956: 6) refers); imagines "in fair numbers, sometimes several on the sheet at one time"; larvae taken annually in garden since 1955 (D. G. Marsh, *in litt.*, 20.i.1960).

7. Tunstall, one, at light, 1963, and exhibited by J. C. Felton at annual exhibition of Kent Field Club, November 16, 1963† (C.-H.).

8. Lydden Spout, a ♀, labelled "W. Purdey. Leaden Spout, Folkestone, June 1877" (Cockayne, *Ent. Rec.*, 59: 58), is in R.C.K. Dover Town.—1948: eleven imagines taken in June; seed heads of *D. barbatus* collected containing larvae (Youden, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1948-49: 52, 1949-50: 49; idem, *Entomologist*, 83: 121-122); 1949 (Cockayne, *Ent. Gaz.*, 2: 76-79; C.-H., *Ent. Rec.*, 61: 93); 1949, "upwards of fifty were taken on the wing, and a further thirty were bred from larvae taken in 1948" (Morley, *Trans. Folkestone nat. Hist. Soc.*, 1949-50: 17); noted in numbers annually 1949-63 (G. H. Youden, *in litt.*, 16.xii. 1963). Shepherdswell, larvae, 1950 (G. H. Youden). Whitfield, 1953 (Wakely, *Ent. Rec.*, 66: 109). Folkestone, larvae in seed heads of *S. cucubalus* on Creteway Down, July 1949, from which two imagines were reared in 1950 (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1950-51: 56). Brook, 1957 (P. Cue).

[At meeting of Northern Entomological Soc., December 21, 1861, a "Dianthaecia" received from H. J. Harding of Deal and which exactly resembled *H. compta*, was exhibited by Mr. Sidebotham (*Zoologist*, 7903). It seems probable that this specimen originated from Kent, since so far as is known Harding seldom if ever collected outside the county, and he was also a man whose integrity has never been questioned. The *compta* referred to by Tutt (in *Ent. Rec.* 4: 299, 8: 8-9), however, would appear to be much less creditable (C.-H.).]

9. St. Peters, one, at m.v.l., in garden, August 19, 1959 (W. D. Bowden).

12. Chatham, one, July 16, 1953; imagines noted annually since (P. B. Wacher, *in litt.*, viii.1958). Wye, one, July 4, 1955 (W. L. Rudland). Willesborough, one, June 30, 1954, one, June 25, 1956 (W. L. Rudland; one at light, 1958, two, at m.v.l., 1961 (M. Singleton). Sandy Lane, West Ashford, one, 1961 (M. Enfield). Ashfield Town, in garden, June 14, July 3, 1960, June 21, 1961 (P. Cue). Ham Street, one, July 2, 1963 (R. G. Chatelain).

13. Goudhurst, one, at m.v.l., July 4, 1963 (W. V. D. Bolt).

15. Dungeness, one, at m.v.l., June 28, 1955 (Haxby, *Ent. Rec.*, 72: 73).

16. Folkestone Town, one, July 18, 1951 (Morley, *Ent. Rec.*, **64**: 170); one, 1952, by A. Riddell (Morley, *Trans. Folkestone nat. Hist. Soc.*, 1950-52: 12); one, by A. M. Morley, six, by R. W. Fawthrop, 1955; larvae in garden, 1956 (A. M. Morley); 1957 (de Worms, *Entomologist*, **91**: 149). Sandgate, one, June 17, three, June 20, 1961 (N. Reay-Jones). Hythe, August 13, 1962, "batch of Sweet William seedheads produced about sixty larvae, the majority of them *D. compta*" (R. G. Chatelain, *in litt.*, 3.xii.1962); from these a large number of *compta* emerged. June 1963 (idem, *in litt.*, 22.x.1963).

VARIATION.—Cockayne (*Ent. Gaz.*, **2**: 79) recorded the following interesting observations, based on nearly 500 Dover *compta*, most of them bred:—"The variation is considerable when the lightest and darkest are compared, but there is a gradation from one to the other and no definite forms can be separated. In some the subterminal markings are pale ochreous instead of white and in two the median band is cream coloured with a white orbicular. In some there is a broad pure white median band and in others it is narrow with the costa darkened, and it is crossed by two black lines, one immediately below the margin; the usual white space on the inner margin is broken by transverse black lines. One specimen has the white band so filled with dark markings that I think it can be assigned to ab. *defasciata* Hannemann. One was an example of homoeosis with a narrow streak of forewing colour and pattern on the left hind wing".

The series in R.C.K. includes the following abs. from Dover bred by E. A. Cockayne in 1950:—ab. *defasciata* Hannemann (1) (Cockayne, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1950-51: 27); ab. having "ochreous subterminal" (18); ab. having "cream coloured median area" (3).

FIRST RECORD, 1877: Lydden Spout (W. Purdey).

**H. bicruris** Hufn. (**capsincola** Hübn.): Lychnis.

Native. Downs, woods, chalky places, gardens, shingle beach, etc.; on *Melandrium rubrum*, *M. album*, *Dianthus barbatus*. Frequent and found in all divisions. "Generally common" (V.C.H. (1908)).

The moth normally appears from about the end of May to July, with what seems to be a partial second generation some years from August to September.

I have found the larva on *M. rubrum*, Hadding Wood, near Waldershare, 1950; on *M. album*, West Wickham, 1947; on *D. barbatus*, Dover, 1953, Westenhanger, 1953; and on each occasion reared them (C.-H.). Hammond (*Ent. Gaz.*, **8**: 185) records the parasite *Microplitis tristis* Nees, bred from a larva of *H. bicruris* found on *M. rubrum*, Dover.

VARIATION.—Cockayne (*Ent. Rec.*, **64**: 35) described ab. *ochreofusca*, holotype ♀, Bexley, bred 1914.

FIRST RECORD, 1829: Stephens, *Haust.*, **2**: 188. The earliest record, however, that it has been possible to trace that actually mentions Kent, dates from 1862: Lee (Fenn, *Diary*, 25.vi.1862).

**H. rivularis** F. (**cucubali** Schiff.): Campion.

Native. Downs, rough fields, waysides, etc.; on *Silene cucubalus*, *Saponaria officinalis*. Locally plentiful on chalk soils. Recorded from all divisions; apparently rather scarce in 1-4, 10-16.

Note: At Westwell (div. 7), twelve fresh specimens at m.v.l., August 8, 1955 (C.-H.). Folkestone, larvae common in capsules of *S. cucubalus*

(Knaggs (1870)); Cuxton, larvae in seed capsules of *S. cucubalus* (Ash, *Ent. Rec.*, **14**: 341); Whitehill, nine larvae, September 11, 1915, three larvae, September 23, 1915, all on *S. cucubalus* (F. T. Grant); Ash (div. 4), several larvae in seed heads of *S. officinalis*, August 28, 1960, from which an imago emerged May 1961 (C.-H.).

1. Recorded from many localities in this division. Recent occurrences are:—Sidecup, one, at light, June 27, 1936 (A. R. Kidner). Dartford, "much scarcer than *H. bistrigata*" (B. K. West). West Wickham, 1951 (E. J. Trundell); one, August 20, 1958 (C.-H.). Plumstead, 1953 (J. Green). Bexley, one, July 29, 1952 (A. Heselden). Abbey Wood, 1954 (A. J. Showler). Orpington (R. G. Chatelain). Lee, several (C. G. Bruce). Blackheath, at m.v.l., one, June 2, one, July 21, 1960 (A. A. Allen). Bromley, one, 1960, two, 1963 (D. R. M. Long).

2. Dartford (B. K. West).

3. Blean, one, 1939 (P. F. Harris).

4. Sandwich, one, 1902 (J. P. Barrett coll.). Ham Fen, one, July 2, 1955 (C.-H.). Ash, larvae in *S. officinalis*, 1960 (C.-H.). Worth, 1961 (T. W. Harman).

10. Dunton Green, May 13, 1912 (Gillett, *Diary*).

11. Yalding; Wateringbury (V.C.H. (1908)). Aylesford (G. A. N. Davis).

12. Willesborough, seven, May 26-June 23, 1954, five, June 5-July 16, two, August 5-13, 1955, five, May 31-June 24, three, July 31-August 10, 1956 (W. L. Rudland). Ashford Town, one in garden, July 27, 1956 (P. Cue). West Ashford, one, in m.v. trap, 1961 (M. Enfield).

13. Tunbridge Wells, commoner than *H. bistrigata* (Knipe (1916)). Goudhurst, three, 1952 (W. V. D. Bolt).

14. Sandhurst (G. V. Bull).

15. Dungeness, one, August 3, 1951 (C.-H.); one, at light, July 27, 1956 (R. F. Bretherton); one, June 13, two, June 14, 1962, in m.v. trap (R. E. Scott).

16. Folkestone Town (A. M. Morley). Sandgate, one, 1960, one, 1961 (N. Reay-Jones).

VARIATION.—Of the twelve examples taken by me at Westwell, two conform to ab. *disjuncta* Lempke (C.-H.).

FIRST RECORD, 1829: Darent Wood (Stephens, *Haust.*, **2**: 188).

#### **H. lepida** Esp. (**carophaga** Borkh.): Tawny Shears.

Native. Chalky places, shingle beach, etc.; on *Silene nutans*, *S. cucubalus*, *S. maritima*. Recorded from all divisions except 10. Apparently rather scarce in 1-4, 6a, 11-14, 16.

Note:—Dungeness, first brood often abundant at light, June; second brood less numerous, August (C.-H.); larvae on *S. maritima* (de Worms, *Entomologist*, **64**: 108); on both *S. maritima* and *S. nutans*, but preferring *nutans* (A. J. Wightman, *in litt.*). Adisham, larvae in seed heads of *S. cucubalus*, 1946 (C.-H.).

1. Erith, one, June 7, 1884 (Fenn, *Diary*). Greenwich; Farnborough (*Wool. Surv.* (1909)). Chislehurst (S. F. P. Blyth). Swanley, three larvae, July 18, 1933 (A. R. Kidner). Bexley (L. T. Ford); one, May 15, 1952 (A. H. Heselden). West Wickham, ♂, flying in sunshine, August 13, 1950 (C.-H.). Dartford (B. K. West). Petts Wood, one, 1950 (E. Evans). Orpington, 1953 (L. W. Siggs). Plumstead, 1953 (J. Green). Hayes (de Worms, *Lond. Nat.*, 1954: 88). Lee, one, June 16, 1962 (C. G. Bruce). Bromley, one, August 16, 1962 (D. R. M. Long).

2. Dartford (B. K. West).
3. Den Grove, one, May 13, 1944 (C.-H.). Whitstable (P. F. Harris). Herne Bay, scarce at light (D. G. Marsh).
4. Sandwich, August 16, 1939 (A. J. L. Bowes). Ickham, occasionally at light, 1954-59 (D. G. Marsh).
- 6a. Cobham, June 10, 1912 (F. T. Grant).
11. Aylesford (G. A. N. Davis). Hoads Wood (P. Cue).
12. Ham Street, one, 1948 (C.-H.). Chartham (P. B. Wacher). Ashford (P. Cue). Willesborough, one, May 11, one, July 14, 1954, two, July 10-11, 1955, two, May 31-June 19, 1956; Wye, one, August 10, 1953, five, May 12-30, 1954, two, May 17-June 10, 1956 (W. L. Rudland). West Ashford, one, at light, August 1959 (M. Enfield).
13. Tunbridge Wells, one, c. 1955 (L. R. Tesch).
14. Hawkhurst (B. G. Chatfield).
16. Folkestone Town (Morley, *Ent. Rec.*, **64**: 171; idem, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1952-53: 41).

VARIATION.—Adisham (div. 8) series bred from larvae found on *S. cucubalus* all produced a much variegated form with sandy-coloured ground, quite unlike the Dungeness specimens, which have predominantly whitish ground with a marked tendency to obsolescence; one that I have from Dungeness is pure white with the markings almost entirely suppressed (C.-H.). Wightman (*Ent. Rec.*, **52**: 128) describes at length the differences between Dungeness and Sussex specimens; Dungeness examples being chiefly characterised by “ground colour much peppered with the finest possible atoms in grey, greenish-grey, or metallic-bronze”. “Central area is never darker than the rest of the wing, and is often the palest area”. Morley (1931) notes Folkestone area [Dungeness] specimens frequently ab. *pallida* Tutt; and the same observer records (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1952-53: 41) the “Dungeness form” from Folkestone. Colthrup (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1910-11: 148) exhibited one from Folkestone having the “ground colour white, markings intense black”.

Tutt (*Br. Noct.*, **3**: 28-31) records the following abs. from Kent: *fusco-pallida* Tutt; *ochrea-pallida* Tutt. Also, *carpophaga* Borkh., two only; and *lepidia* Esp.

The following abs. are in R.C.K.: *pallida* Tutt, Folkestone, bred, 1906 (1), E. Kent, bred, 1915 (1); *pallida* Tutt, with “white plain fringes, no marginal dots”, Dungeness (several); *virgata-pallida* Wightman E. Kent, bred, 1914 (1); *pallida* Tutt, with “plain fringes, marginal dots present”, E. Kent, bred 1914 (1); *pallida* Tutt, “white, chequered fringes”, Dungeness (several); *ochrea-pallida* Tutt, Otford, 1902 (1); *ochracea* Haw., N. Kent, vi.1910 (1), “Sevenoaks, C. May, 17.vii.96” (1); *ochracea* Haw., with “plain fringes, no marginal dots”, Lydd, bred 1934; *virgata-ochracea* Tutt, Kent, bred 1900; *fusco-pallida* Tutt, Dungeness (many); *ochracea* Haw., with “plain fringes, marginal dots present”, S. W. Kent, bred 1929.

FIRST RECORD, 1849: Dover (Grant, *Zoologist*, 2583).

[**H. capsophila** Dup.: Pod-lover.]

Questionably Kentish.

The moth has a western and north-western distribution in Britain, and is considered by most authors to be a sub-species of *H. lepida* Esp., but is treated here as specifically distinct in accordance with Heslop's classification. It has been suggested that the records relating to *capsophila*

from Kent referred to dark aberrations of *H. lepida*; with regard to the Webb and Newman records, however, the possibility of casual introduction would seem to be a more likely explanation. Unfortunately, nothing is known of the present whereabouts of any of these specimens, so that it has not been possible even to check the determinations.

6. Otford, June 21, 1902 (Adkin, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1902: 50). North Kent [Eynsford?] L. W. Newman exhibited "a pair of a *Dianthæcia* bred from North Kent larvae in 1912, identical with specimens of *D. capsophila* from the Isle of Man" (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1912-13: 99; *Entomologist*, 45: 345).

8. Dover, 1890, "I bred specimens identical with the darkest Manx *capsophila* from sweet-william heads out of my garden last year" (Webb, *Ent. Rec.*, 2: 37.]

***Heliophobus albicolon* Hübn.: White Colon.**

Native. Coastal sandhills; foodplant unknown. Probably casual in 1, 7, 8, 12, 16.

1. Lee, one, June 19, 1954, in m.v. trap† (C. G. Bruce). [(Orpington (Chatelain, in de Worms, *Lond. Nat.*, 1959, 103), is based on erroneous determination (C.-H.).)]

4. Kentish Coast [Deal] (see *First Record*). Deal- Sandwich sandhills.—1856 (Harding, *Ent. week. Int.*, 1: 99); very common at sugar, July 4-24, 1891 (Fenn, *Diary*); June 9-10, 1934; June 22, 1935; June 22, 1936 (A. J. L. Bowes); of regular occurrence and often numerous at sugar, marram, and occasionally light (C.-H.); twelve, May 27, 1954 (W. D. Bowden). Ham Fen, one at sugar, June 17, 1950, probably a stray (C.-H.). Worth, June 9, 10, 1962 (T. W. Harman).

7. Boxley, one, June 25, 1953 (A. H. Harbottle).

8. Folkestone Warren, at Haggerston Entomological Soc., September 2, 1886, E. Anderson exhibited "one *M. albicolon* from the Warren, Folkestone" (Anderson, *Young Nat.*, 7: 206).

12. Willesborough, one, June 16, 1954; one, July 20, 1956; both in m.v. trap (W. L. Rudland).

15. Romney Marsh, June 15, 1911 (Colthrup, *Ent. Rec.*, 24: 93). Littlestone, one, 1934 (R. C. Crewdson, *fide* A. M. Morley); two, 1953 (P. Cue). Lydd Town, one at light, June 13, 1953 (C.-H.). Lydd-on-Sea, 1958 (Wakely, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1958: 42). Greatstone, six in m.v. trap on the shingle, July 15-22, 1963 (C.-H.). Dungeness, one, June 6, 1950 (E. C. Pelham-Clinton); seven singletons in m.v. trap, June 15-July 10, and one, August 5, 1962 (R. E. Scott).

16. Folkestone Town, one at m.v.l., 1957, by R. W. Fawthrop (A. M. Morley).

VARIATION.—Tutt (*Br. Noct.*, 1: 114-115) considered English specimens much greyer than continental examples and referable to ab. *cinerascens* Tutt, but added that he had taken the "dark type" at Deal.

At Sandwich I have noted a fair proportion of dark examples that I judge to be referable to nymotypical *albicolon* Hübn., but the majority there would appear to conform to *cinerascens* Tutt (C.-H.).

An apparently un-named ab. in R.C.K., labelled "Sandwich E. S. A. Baynes vi. 1913" (one), has the forewings blackish-grey, the subterminal dots present, but the stigmata, basal and antemedial lines only faintly visible (C.-H.).

FIRST RECORD, 1853: Kentish coast, exhibited by H. J. Harding at Soc. British Entomologists, September 6, 1853 (*Zoologist*, 4071).

**H. reticulata** Vill. (**saponariae** Borkh.) ssp. **marginosa** Haw.: Bordered Gothic.

Native. Rough fields, downs, etc., with seemingly a preference for chalk soils; foodplant unknown.

1. Dartford\*, June 24, 1897 (James, *Entomologist*, **31**: 57). Joydens Wood (C. Fenn, in *Wool. Surv.* (1909)). Farnborough, two, 1898 (H. Alderson, in *Wool. Surv.* (1909)). Bexley (L. W. Newman, in *Wool. Surv.* (1909)); one, at light, 1950 (L. T. Ford). Lee (W. West, in *Wool. Surv.* (1909)). Wilmington (L. T. Ford). West Wickham, 1951 (E. J. Trundell). Orpington, one, 1956 (R. G. Chatelain). Farningham\*, one, at m.v.l., July 13, 1962 (B. F. Skinner).

2. Dartford (B. K. West).

3. Herne Bay, ♂, at valerian, June 20, 1936 (A. J. L. Bowes); occasionally at light (D. G. Marsh). Great Hall Wood, ♂, June 26, 1946, at sugar (C.-H.).

4. Deal\* (Tutt, *Entomologist*, **20**: 213). Sandwich, one, 1902 (Carr, *Entomologist*, **35**: 246); one, July 16, 1938 (B. Embry, teste G. H. Youden). Ickham, several seen each year, 1954-59, "sometimes 2 or 3 in one night" (D. G. Marsh, *in litt.*, 20.i.1960); one, July 11, 1957, two, June 19, 1959 (G. H. Youden).

5. Green Street Green, one (Hewitt, in *Wool. Surv.* (1909)). Chevening, twelve, June 2-18, 1914 (Gillett, teste Prideaux, *Entomologist*, **47**: 253). Biggin Hill, one, July 3, 1954 (C.-H.).

6. Gravesend (Button, *Entomologist*, **4**: 129); (H. G. Huggins). Greenhithe (Farn MS.). Pinden (E. J. Hare). Fawkham, June 1, 1952 (G. G. E. Scudder). Otford, fairly numerous at m.v.l., 1955-56 (W. B. L. Manley).

6a. Darent Wood (Stephens, *Haust.*, **2**: 189); (Standish, *Entomologist*, **5**: 147); two, June 16, 1862 (Bouchard, teste Fenn, *Diary*); (E. J. Hare). Mark Oak Wood (Chaney (1884-87)).

7. Wigmore Wood (Chaney, *loc. cit.*). Westwell (Scott (1936)); one, May 24, 1952, one, May 27, two June 21, 1953 (G. H. Youden); a few annually since 1945, common in 1953 (E. Scott, *personal communication*, 19.xii.1954). Boxley, 1953 (A. H. Harbottle).

8. Dover.—Near Dover (Stephens, *loc. cit.*); Poulton Slopes, at sugar, one, July 2, one, July 7, 1898, two, June 23, 1903; Coombe Walk, at sugar, twelve, June 4, six, June 7, three, June 8, 1901; one, June 3, 1902; one, June 16, 1903 (H. D. Stockwell, *Diary*); Dover, ♀, June 21, 1909; Maxton, one, June 4, 1909 (P. A. Cardew, *Diary*); Langdon Hole (E. & Y. (1949)); Dover Town, in m.v. trap, one, July 11, 1951, one, June 6, 1953 (G. H. Youden). Folkestone (Knaggs (1870)); 1882 (Salwey, *Entomologist*, **15**: 198). Wye\* (Scott (1936)). Brook, fairly common annually (C. A. W. Duffield, *fide* E. Scott, *personal communication*, 19.xii.1954).

9. Margate, 1905 (Barrett, *Entomologist*, **38**: 214); 1913 (Spiller, *Entomologist*, **46**: 318); 1914 (H. G. Gomm). Birchington, one, c. 1930 (C.-H.). Ramsgate (J. W. C. Hunt); (A. J. L. Bowes). St. Peter's, four, May 20-28, 1956 (W. D. Bowden).

10. Brasted, at light (R. M. Prideaux). Sevenoaks, June 9, 1922 (Gillett, *Diary*).

11. Wateringbury (V.C.H. (1908)).

12. Chartham (P. B. Wacher). Wye, three, June 9-July 3, 1953, five, June 4-July 10, 1954, three, June 19-July 19, 1955, four, June 11-July 21, 1956; Willesborough, one, July 12, 1956 (W. L. Rudland).

13. Southborough district (Knipe (1916)). Goudhurst, one at light, 1954 (W. V. D. Bolt).

15. St. Mary's Bay, one, August 3, 1936 (A. M. Morley).

16. Folkestone Town, one, at light, June 21, 1953 (A. M. Morley).

VARIATION.—Kentish examples are referable to ssp. *marginosa* Haw. Cockayne (*Ent. Rec.*, 57: 54) observes that in specimens of *marginosa* from England, "the ground colour of both forewings and hindwings is straw-coloured and the markings have a yellowish tint. They are easily distinguishable from other European or from Asiatic specimens, all of which are fuscous with white or pinkish ground colour".

FIRST RECORD, 1829: Stephens, *loc. cit.*

#### ***Tholera popularis* F.: Feathered Gothic.**

Native. Rough grassy places; foodplant unknown. Frequent and found in all divisions.

The moth is sometimes found at rest on grass stems, but is most often observed at light, to which both sexes are attracted in numbers. Very rarely, however, has it been noted at sugar, the only known instance being that recorded in E. & Y. (1949) of a ♀ at Dover in 1934.

VARIATION.—Morley (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1934-35: 50) exhibited a dwarf example from S.E. Kent measuring only 29 mm.

FIRST RECORD, 1829: Stephens, *Hast.*, 2: 190. The earliest record to actually mention Kent, however, dates from 1857: Tenterden (Stainton, *Man.*, 1: 204).

#### ***T. cespitis* Schiff.: Hedge Rustic.**

Native. Rough grassy places, commons, etc.; on *Aira caespitosa*. "Not uncommon at light" (V.C.H. (1908)). "Rare in Kent" (Barrett, *Br. Lep.*, 4: 140).

1. Near Bexley; Dartford Common (Stephens, *Hast.*, 2: 109). Eltham, one, 1870 (Jones, *Ent. mon. Mag.*, 7: 158). Paul's Cray Common, September 18, 1875 (Fenn, *Lepidoptera Data MS.*). Chislehurst, two (W. A. Cope); one (S. F. P. Blyth); one, September 1924 (A. R. Kidner). Keston; Bexley; Farnborough (*Wool. Surv.* (1909)). West Wickham (V.C.H. (1908)); (de Worms, *Lond. Nat.*, 1954: 91). Farningham, larvae, June 28, 1924 (A. R. Kidner). Petts Wood, 1949, common (A. M. Swain). Dartford Heath, larvae plentiful but highly parasitised (L. T. Ford); not common (B. K. West). Bexley, two, August 28-29, 1952 (A. Heselden). Plumstead, 1953 (J. Green). Lee, August 15, 1959, at m.v.l. (C. G. Bruce). Orpington, September 6, 1962 (R. G. Chatelain). Bromley, in m.v. trap, 1959 (2), 1960 (6), 1962 (16), 1963 (7), (D. R. M. Long).

2. Greenhithe\*, 1893 (A. B. Farn, teste Fenn, *Diary*). Rochester\*, larvae on *A. caespitosa*, 1907 (Ovenden, *Ent. Rec.*, 19: 230).

3. Whitstable; Chestfield (P. F. Harris). Herne Bay, one or two annually (D. G. Marsh). Broad Oak, two, at electric light, September 9, 1945 (C.-H.).

4. Deal (Harding, *Entomologist*, 2: 194). Plucksgutter, one, September 8, 1957 (W. D. Bowden). Ickham, one or two only, 1954-59 (D. G. Marsh).

5. Chevening, September 5, 16, 17, 18, 20, 1912, August 25, 26, September 3, 1914 (Gillett, *Diary*). Westerham, one, 1936 (R. C. Edwards).

6. Gravesend (H. C. Huggins). Pinden, one, 1939 (E. J. Hare). Otford,

one, 1955 (W. B. L. Manley).

7. Darland Hill, one, 1873 (Chaney (1884-87)). Westwell (Scott (1936)); 1946 (Bull, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1946-47: 169).

8. Deal\*, 1856 (Harding, *Ent. week. Int.*, 1: 187). Folkestone\* (Ulyett (1880)). Brook (C. A. W. Duffield). Wye, ♂, at light, August 28, 1935 (A. J. Bowes); one, September 9, 1937 (A. H. Lanfear). Dover, few (B. O. C. Gardiner).

9. Ramsgate, one, 1910 (J. W. C. Hunt). St. Peter's, two, September 17, 1957 (W. D. Bowden).

10. Sevenoaks, 1919 (Gillett, *Entomologist*, 53: 23); at light, 1950 (F. D. Greenwood).

11. Yalding (V.C.H. (1908)). Hoads Wood (G. V. Bull); one, September 12, 1954 (W. L. Rudland); one, August 31, 1957 (W. D. Bowden). Aylesford (G. A. N. Davis). Sevenoaks Weald, one, August 22, 1959 (E. A. Sadler).

12. Ashford (Scott (1936)); c. 1953 (P. Cue). Orlestone Woods, one, 1949 (E. J. Hare); several ♂♂, at light, 1949-51 (C.-H.); one, at m.v.l., September 1, 1961 (B. F. Skinner). Wye, 1953 (2), 1954 (2), 1955 (2); Willesborough, 1953 (2), 1955 (2), 1956 (3) (W. L. Rudland). Willesborough, one, 1960 (M. Singleton).

13. Tunbridge Wells (E. D. Morgan). Iden Green (H. Boxall). Goudhurst (W. V. D. Bolt).

14. Sandhurst (G. V. Bull). Gills Green (B. G. Chatfield).

15. Dungeness, one, at sugar, September 11, 1938 (Bowes, *Ent. Rec.*, 51: 109); one, September 22, 1955 (E. C. Pelham-Clinton); 1961 (2) (N. Reay-Jones); in m.v. trap, August 31-September 24, 1963 (78) (R. E. Scott).

16. Folkestone, one, 1951 (Morley, *Ent. Rec.*, 64: 171).

FIRST RECORD, 1829: "Occasionally in lanes near Bexley, and on Dartford-common" (Stephens, *Haust.*, 2: 109).

#### **Cerapteryx graminis L.: Antler.**

Native. Golf courses, commons, marshes, chalk downs; foodplant unknown. Plentiful very locally; odd examples (possibly strays) have occurred in many different types of habitat.

1. Chislehurst, 1883 (Cockerell, *Entomologist*, 18: 20). Bexley district (L. W. Newman, in *Wool. Surv.* (1909)). Farnborough (H. Alderson, in *Wool. Surv.* (1909)). Keston (W. A. Cope). Sidecup, one, at light, July 17, 1910 (A. R. Kidner). Chislehurst (S. F. P. Blyth). Petts Wood, one, at light, 1947 (E. Evans). West Wickham, one, September 4, 1950 (E. J. Trundell); about 20 at rest on grass stems, at night, on the golf course, September 1, 1962 (C.-H.). St. Paul's Cray; Dartford Heath (C. Fenn, in *Wool. Surv.* (1909)). Dartford Heath, several, 1951 (B. K. West). Shooter's Hill (D. F. Owen). Welling, 1952 (R. G. Rigden, teste A. J. Showler). Orpington, 1955 (2), 1957 (5) (R. G. Chatelain). Hayes (R. Birchenough, in de Worms, *Lond. Nat.*, 1954: 91). Holwood Park, Keston, one, July 29, 1946 (J. F. Burton). Lee, scarce (C. G. Bruce). Bromley, 1960 (2), 1962 (1), 1963 (4) (D. R. M. Long).

2. Faversham, on the marshes near Graveney (H. C. Huggins). Sheppey, 1936 (E. H. Wild). Rochester district\*, 1905 (Ovenden, *Ent. Rec.*, 18: 19). Greenhithe\* (Farn MS.). Aylesford (G. A. N. Davis). Cliffe Marshes, August 20, 1960 (R. G. Chatelain).

3. Broad Oak, one, August 5, 1951 (C.-H.).

4. Ham Ponds, August 23, 1891 (Fenn, *Diary*) (Deal (V.C.H. (1908)),

may refer). Reculver, one, July 24, 1935 (A. J. L. Bowes). Westbere, in marshy fields by the Stour, three, August 22, 1944, nine, July 23-24, 1946 (C.-H.); plentiful, 1953 (G. H. Youden). Sandwich, one, August 3, 1954 (W. D. Bowden). Ickham, 1954-59, "some years quite plentiful" (D. G. Marsh).

5. Chevening, August 20, 1914, July 23, 1917 (Gillett, *Diary*).
6. Culverstone, two (F. T. Grant). Pinden, one, 1949 (E. J. Hare). Otford, 1955 (2) (W. B. L. Manley).
7. Westwell (Scott (1936)); one, August 4, 1945 (G. V. Bull); one, at m.v.l., August 8, 1955 (C.-H.). Boxley, c. 1954 (J. F. D. Fraser).
8. Stowting (C. A. W. Duffield). Hawkinge, common, 1937 (B. K. West). Dover, found annually on the cliffs and downs; Shepherdswell (E. & Y. (1949)). Dover, in m.v. trap, July 21, 1952 (G. H. Youden).
9. St. Peter's, one, at m.v.l., August 20, 1957 (W. D. Bowden).
10. Brasted, August 8, 1913 (Gillett, *Diary*). Sevenoaks, August 24, 1919 (Gillett, *Diary*); 1946 (F. D. Greenwood).
11. Hothfield, one, "Hothfield August 5 1905 H. Elgar", in Maidstone Mus. (C.-H.); (Scott (1936)). Wateringbury (V.C.H. (1908)). Edenbridge, 1930 (F. D. Greenwood).
12. Wye\* (Scott (1936)). Wye, nine in m.v. trap, 1953-56; Willesborough, in m.v. trap, August 22-28, 1954 (3), August 3-21, 1955 (3), July 20-August 11, 1956 (5) (W. L. Rudland). Brook\* (C. A. W. Duffield). Chartham (P. B. Wacher). Orlestone Woods, one, July 31, 1951 (C.-H.). Ashford Town (P. Cue). Willesborough, one (1960); Brook, one (1960); W. Ashford, one (1960) (M. Singleton).
13. Tunbridge Wells (E. D. Morgan). Goudhurst, numerous at m.v.l. (W. V. D. Bolt, *personal communication*).
14. Sandhurst, one, 1936, one, 1945 (G. V. Bull).
15. Dungeness, ♀, at sugar, September 8, 1934 (A. M. Morley); one, August 12, 1939 (G. V. Bull); July 1957 (E. Philp); seven in m.v. trap, August 4-23, 1963 (R. E. Scott). Littlestone, one, August 3, 1948 (P. le Masurier).
16. Hythe (Morley (1931)). Folkestone Town, ♀, July 29, 1929, ♂, July 28, 1946, singletons at m.v.l., 1955-56, two, 1957 (A. M. Morley).

FIRST RECORD, 1883: Chislehurst (Cockerell, *loc. cit.*).

### **Xylomyges conspicillaris L.: Silver Cloud.**

Resident, probably extinct. Woods and their vicinity; foodplant unknown. No known occurrence since 1881.

1. Between Birch Wood and Bexley (Stephens, *Hast.*, **2**: 170). "A. B. Farn gave me a very bad specimen labelled 'Birch Wood' and told me it was quite genuine" (H. C. Huggins, *in litt.*). [Lessness Woods, between 1927 and 1930 (Newall, *Trans. Plumstead nat. Hist. Soc.*, 1931-32: 12); I wrote to W. J. Newall, but in his reply he was unable to confirm its occurrence (C.-H.).]
6. Dartford\*, ♀, taken by Mr. Packman, May 10, 1875 (Farn, *Entomologist*, **8**: 135); two, taken by E. G. Meek, April 27, 1878, one on a post, the other on a fence, close to Gore Farm, between Dartford and Darent Wood (Meek, *Entomologist*, **11**: 142); ♂, taken on a fence by E. R. Sheppard, April 23, and one by H. Packman on April 27, 1878 (Sheppard, *Entomologist*, **11**: 142); two, taken May 1881, by H. Packman (Sabine, *Entomologist*, **14**: 210). Greenhithe\* (V.C.H. (1908)).
- 6a. Darent Wood.—"Rarely, flying; May" (Douglas, *Zoologist*, 3218);

a pair taken in 1854 were exhibited by H. J. Harding at Society of British Entomologists (*Zoologist*, 4387); taken May 1855 (Harding, *Zoologist*, 4820); May 1856 (Harding, *Ent. week. Int.*, 1: 51, 76); one, taken 1859 (Harding, *Ent. week. Int.*, 6: 67); two, "from old Benj. Standish, Darenth Wood captures" (Hodgkinson, *Ent. Rec.*, 6: 67). H. J. Harding records that on one occasion at Darenth Wood he took seven *conspicillaris* at dusk (cf. Harding, *Entomologist*, 16: 132).

FIRST RECORD, 1829: "A rare species; two or three specimens have been taken between Birch-wood and Bexley" (Stephens, *Haust.*, 2: 170).

#### ORTHOSSIINAE

##### **Orthosia gothica** L.: Hebrew Character.

Native. Woods, gardens, bushy places; on dock, maple, rose. Recorded from all divisions; few records for 9, 15. "Generally common" (V.C.H. (1908)).

The moth appears to show a preference for wooded areas, and in such situations is often abundant at light and at sallow catkins. In 1962, D. R. M. Long recorded a total of 684 *gothica* in his m.v. trap at Bromley, with maximum (79) on April 28; it first appeared on March 12, and was last seen by him on June 16—a remarkably late date.

The larva has been taken on dock at Bromley, and on maple at Eynsford and Lullingstone, by D. R. M. Long. A. R. Kidner (*Diary*) records having taken a larva at Sidcup, June 25, 1924, on flowers of rose.

VARIATION.—*Abs. variegata* Tutt and *rufescens* Tutt, each with considerable variation *inter se*, appear to constitute the bulk of Kentish *gothica*; the nymotype is uncommon, at least in my experience; one, that I saw in W. V. D. Bolt coll., taken by him, Goudhurst, 1952, is pale with central mark broken, and which I judge to be referable to ab. *separata* Fremont. I have a good example of this ab. from Chatteris, Cambridgeshire, but the aforementioned is the only one known to me from Kent, where it must be rare (C.-H.).

Another rare ab. is *circumsignata* Hasebroek, one of which was taken by E. Philp, at Broad Street (div. 7), April 30, 1955†. A ♂ taken by A. M. Morley, at sallow, Ham Street, April 2, 1939, is also referable to *circumsignata* Hasebroek†.

One taken by C. Fenn, Lee, May 18, 1888, is assigned to ab. *gothicina* H.-S. in his *Diary* (Fenn, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1889: 155 refers); and another "closely approaching" *gothicina*, is recorded by Croker (*Entomologist*, 22: 264) from West Wickham. An example from Sandhurst, stated to be ab. *taeniata* Lenz, was exhibited by Bull (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1952-53: 7).

FIRST RECORD, 1829: Darenth (Stephens, *Haust.*, 2: 139).

##### **O. miniosa** Schiff.: Blossom Underwing.

Native. Woods, scrub; on oak. "Abundant in some places" (V.C.H. (1908)). This species has from time to time shown a marked increase or spread into new areas, this having been particularly noticeable about 1948.

1. Halfway Street, Eltham, one, April 8, 1866 (A. H. Jones, *teste* Fenn, *Diary*). Bexley; Dartford; Farnborough (*Wool. Surv.* (1909)). Petts Wood, larvae on oak, 1947 (A. M. Swain); one, 1950 (E. Evans). Joydens Wood, c. 1947; Hayes Common, c. 1947; Shooters Hill, c. 1947 (D. F. Owen). Near

Bromley, half-grown larvae were rather numerous along the northern edge of a wood, c. 1948, and "were principally distributed from almost ground-level up to four feet from the ground on young oak shoots" (D. Lanktree, *in litt.*). Elmstead Wood, a larva on oak, May 15, 1948; Shooters Hill, imago occasionally at sallow (J. F. Burton). Farnborough, several, 1949, 1951, at sallow (C.-H.). West Wickham (Birchenough, *in de Worms, Lond. Nat.*, 1955: 48). Lee, one, 1955 (C. G. Bruce).

3. Blean, two, 1901, in J. Platt Barrett coll. (C.-H.). Broad Oak.—I assiduously worked the sallows in the woods in this area from 1937-40 without seeing it once; Trenley Park, two, at sallow, April 12, 1947; Little Hall Wood, larvae plentiful on young oak bushes in a field adjoining, May 26, 1947 (C.-H.). Eddington, two, at sallow, March 24, 1948; one, at m.v.l., April 25, 1951 (D. G. Marsh). Whitstable (P. F. Harris).

4. Ickham, occasionally, 1954-59 (D. G. Marsh).

6. Greenhithe\* (Farn MS.).

6a. Darenth Wood (Stephens, *Haust.*, 2: 144); numerous at sallow, 1866 (E. G. Meek and B. Gill, *in Ent. Ann.*, 1867: 152); 1867 (E. G. Meek, *in Ent. Ann.*, 1868: 115); imagines at blackthorn blossom; larvae fairly numerous (B. K. West); c. 1947 (D. F. Owen); (E. J. Hare). Chattenden, larvae (Chaney (1884-87)); larvae, May 26-28, 1923 (F. T. Grant); c. 1947 (D. F. Owen). Mark Oak Wood (Chaney (1884-87)).

7. Wigmore Wood, not uncommon (Chaney (1884-87)). Wardwell Wood, Sittingbourne, larva (H. C. Huggins).

8. Folkestone\* (Ulyett (1880)). Elham Park Wood, two, at sallow, April 2, 1926 (W. E. Busbridge, *Diary*) (near Barham (E. & Y. 1949)), probably refers). Cooting downs, four, March 31, 1926 (W. E. Busbridge, *Diary*).

11. Yalding (V.C.H. (1908)). Bethersden, 1929, 1930 (G. V. Bull, *Diary*). Tonbridge, larvae common, 1950 (H. E. Hammond). Hoads Wood, c. 1953 (P. Cue).

12. Ham Street.—1932, 1934, 1935 (G. V. Bull, *Diary*); plentiful 1936, 1938, few 1935, 1937 (A. J. L. Bowes); Long Rope, 1938, 1939 (C.-H.); larva, 1959 (Scott, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1959: 77); fairly common at sallow bloom in Orlestone Woods, 1961 (M. Singleton). Brook\*, April 25, 1946, April 12, 1947, April 18, 1952 (E. Scott). Ashford Town, April 20, 1953 (P. Cue). Wye, one, April 28, 1955, three, April 30-May 4, 1956 (W. L. Rudland).

13. Southborough district (M. M. Phipps, *in Knipe (1916)*). Goudhurst, two, at m.v.l., 1950 (W. V. D. Bolt).

14. Sandhurst, 1943, 1948, 1949; Appledore Heath, 1939 (G. V. Bull, *Diary*).

15. Dungeness, four, April 3-4, 1946. (A. M. Morley).

16. Folkestone, one, 1946 (A. M. Morley).

FIRST RECORD, 1829: Stephens, *loc. cit.*

### **O. cruda Schiff. (*pulverulenta* Esp.): Small Quaker.**

Native. Woods, copses; on sallow, aspen, sloe, oak. Found in all divisions, but appreciably less plentiful in 2, 4, 9, 15. "Generally abundant" (V.C.H. (1908)).

The moth is usually plentiful, particularly in well wooded areas; on one occasion, however, it was observed in swarms. Thus, C. Fenn (*Diary*) wrote that at Browns Woods, near Eltham (div. 1), on April 5, 1875,

"we must have seen at least 10,000 *cruda* at sallows".

I have occasionally seen *cruda* flying naturally by day, and imbibing at sallow catkins in bright sunshine (C.-H.).

The larva has been taken by F. T. Grant on aspen at Darenth Wood; and A. A. Allen bred the moth, March 1958, from a larva found in Farningham Wood on sallow. D. R. M. Long has taken the larva on sloe at Crofton (div. 1), and on oak at Ham Street.

2. Sheerness, ♂, April 9, 1868 (J. J. Walker MS.). Dartford (B. K. West).

4. Ickham, not common, 1954-59 (D. G. Marsh).

9. Margate, ♂, April 12, 1915 (H. G. Gomm, Diary).

15. Dungeness, one, April 4, 1946 (A. M. Morley); one, April 25, one, April 28, 1963 (R. E. Scott).

VARIATION.—In Kent, what I judge to be ab. *nanus* Haw., and typical *pulverulenta* Esp., are both numerous; ab. *pallida* Tutt is frequent; and I have several that approximate to ab. *pusillus* Haw.; ab. *haggarti* Tutt is rare: Smith (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1909-10: 76) records one from Dover, and I have a ♂ taken Farnborough, April 2, 1949 (C.-H., *Entomologist*, **94**: 282).

The following abs. are in R.C.K.: *pulverulenta* Esp., Herne Bay, 1933 (1); *nigropunctata* Wehrli, Herne Bay, 1934 (1). Also, typical *cruda* Schiff., one, near Canterbury, 1933.

FIRST RECORD, 1842: West Wickham Wood (Douglas, *Entomologist*, **1**: 309).

#### **O. stabilis** Schiff.: Common Quaker.

Native. Woods, bushy places, parks, etc.; on hornbeam, oak, sallow, hawthorn, birch, maple, aspen. Found in all divisions; markedly less numerous in 2, 4, 9, 15. "Generally abundant" (V.C.H. (1908)).

This species, which is rather more plentiful than *O. cruda*, and the most numerous *Orthosia*, normally appears about mid March, but has been noted as early as November 5: one, at ivy bloom, Wateringbury, 1908 (Goodwin, *Entomologist*, **41**: 311); and as late as June 12: Bromley, 1962 (D. R. M. Long).

It is recorded that *stabilis* has been observed in Kent in the wild on four occasions in cop. with other species. Thus, with *O. gothoca*, sex not specified, Halfway Street, near Eltham, 1866 (A. H. Jones, teste C. Fenn, Diary); with *O. gothica* ♀, Darenth Wood (Lowrey, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1888: 52); with *O. gothica* ♀, Halling, 1923 (Newell, *Entomologist*, **56**: 15); with *O. cruda* ♀, Wye (Cockayne, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1934-35: 87).

The larva has been found by D. R. M. Long, on hornbeam, oak, sallow, hawthorn, at Crofton; on aspen, at Bromley; on maple, at Lullingstone; and on birch, at Shoreham.

2. Sheppey, three, March 21, 1868 (J. J. Walker MS.). Faversham; Gravesend (H. C. Huggins). Dartford (B. K. West).

4. Minster, two, March 14, 1951 (W. D. Bowden).

9. Lower Hale, near Birchington, one, April 2, 1946 (W. D. Bowden).

15. Dungeness, April 3, 1946 (A. M. Morley).

VARIATION.—In R.C.K. are ab. *fasciata* Lenz, Ham Street, one, 1935; ab. *flavilinea* Heinr, Bexley, one.

FIRST RECORD, 1842: West Wickham Wood (Douglas, *Entomologist*, **1**: 309).

**O. populeti** F.: Lead-coloured Drab.

Native. Woods; on aspen.

1. Erith, March 29, 1884 (Fenn, *Lep. Data* MS.). Lee district (Fenn, *Ent. Rec.*, **1**: 39). West Wickham (Wells, *Ent. Rec.*, **2**: 87); 1930 (Wakely, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1930-31: 75). [Bexley district], 1893 (Lathy, *Entomologist*, **26**: 160). Sidcup, June 1902, "took about 5 doz. larvae between united leaves of aspen" (H. E. Page MS.). Woolwich; Plumstead; Eltham (Buckell & Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1899: 73). Sydenham, 1892 (Sellon, *Ent. Rec.*, **3**: 292). Orpington; Bexley; Paul's Cray; Halfway Street; Farnborough (*Wool. Surv.* (1909)). Dartford (West, *Ent. Rec.*, **18**: 201). Chislehurst (S. F. P. Blyth). Abbey Wood, larva, June 21, 1930 (*Lond. Nat.*, 1930: 15). Petts Wood, 1947 (A. M. Swain). Farnborough, several, at sallow catkins, 1949-51 (C.-H.). Orpington, 1953 (L. W. Siggs).

3. Barton Wood, Broad Oak, ♂, at sallow, March 28, 1938 (C.-H.). Pine Wood, two, c. 1946 (J. A. Parry).

6. Greenhithe\* (Farn MS.). Clay Lane Wood (H. C. Huggins). Otford, one, 1956 (W. B. L. Manley).

6a. Swanscombe, ♀, April 2, 1947 (B. K. West).

7. Long Beech Wood, Challock, one, April 15, 1939 (C.-H.). Westwell, March 29, 1946 (E. Scott).

8. Dover.—One, April 8, 1898, one, March 24, 1903, both in Coombe Wood (H. D. Stockwell, *Diary*); April 27, two, April 29, 1908, two, April 13, 1909 (P. A. Cardew, *Diary*); one, 1949 (B. O. C. Gardiner). Woolwich Wood (E. & Y. (1949)). Reinden Wood, one, April 12, 1947 (G. H. Youden).

10. Westerham (Auld, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1894: 35). Brasted, 1919 (Gillett, *Diary*).

11. Tonbridge, two, at light (Raynor, *Entomologist*, **6**: 79); 1911 (Rattray, *Entomologist*, **45**: 80). Edenbridge, 1930, 1933 (F. D. Greenwood). Betchersden, April 13, 1931 (G. V. Bull, *Diary*). Hoads Wood, five, 1955 (W. L. Rudland); one, 1961 (M. Enfield).

12. Ham Street.—not common, 1935-36, abundant, 1937-38 (A. J. L. Bowes); about 20, April 8, 1938, numerous, March 31, fairly numerous, April 24, one, worn, May 6, 1939; all in Long Rope; abundant, but many worn, Faggs Wood, April 15, 1949 (C.-H.); about twelve, April 11, 1963 (R. G. Chatelain). Brook\* (Scott 1936)); one, April 14, 1952 (E. Scott). Willesborough, two, 1956; Wye, six, 1954-56 (W. L. Rudland). Willesborough, one, in m.v. trap, 1961 (M. Singleton).

13. Tunbridge Wells, two or three, 1957-58 (L. R. Tesch, per C. A. Stace).

14. Sandhurst, April 4, 1950, April 10, 1951 (G. V. Bull, *Diary*).

VARIATION.—I have what appear to be several of each of the following abs. from both Farnborough and Ham Street: *obsoleta* Tutt; *ocularis* Frr.; *donasa* Esp.; *intermedia* Steph.; *rufomaculata* Lempke (C.-H.). Barrett (*Br. Lep.*, **5**: 204) notes "a tendency toward paler grey-brown colouring" in Kent specimens.

The following abs. are in R.C.K.: *ocularis* Frr., one, Bexley; *atropunctata* Geest, one, Ashford, 1937; *atropurpurea* Geest, one, Ashford, 1937; *intermedia* Steph., Ashford, 1938; *populi* Strom, three, Ashford.

FIRST RECORD, 1872: Tonbridge (Raynor, *Entomologist*, **6**: 79).

**O. incerta** Hufn. (*instabilis* Schiff.): Clouded Drab.

Native. Woods, parks, gardens, hop-yards, etc.; on poplar, apple, hop, rose, oak, hazel, sallow. Found in all divisions. "Generally common" (V.C.H. (1908)).

In 1962, D. R. M. Long noted the moth at Bromley, as late as June 15.

D. F. Owen (*in litt.*) noted having found the pupae in abundance beneath elms in Greenwich Park, in February 1946.

The larva has been found on poplar, Birchington, 1921, and reared (H. G. Gomm, *Diary*); on hop, in hop-gardens at Wye and elsewhere in Kent (Theobald, *Entomologist*, **63**: 7); on oak, Knockholt, imago reared 1918 (Gillett, *Diary*); two, on flowers of rose, Sidcup, June 25, 1924 (A. R. Kidner, *Diary*); on hazel and sallow at Crofton, on oak at Ham Street (D. R. M. Long); on apple foliage, in Kent (Theobald, *Insect and Other Allied Pests of Orchard, Bush and Hothouse Fruits*, 66).

VARIATION.—In R.C.K. is ab. *subsetaceus* Haw., Ashford, May 6, 1896; ab. *contacta* Esp., N. Kent.

Dawson (*Young Nat.*, **10**: 184) exhibited at S. Lond. ent. nat. Hist. Soc., August 8, 1889, "a melanic form", taken at Plumstead; and Tutt (*Br. Noct.*, **2**: 139) records a series of ab. *caerulescens* Tutt, bred by Fenn, from Lee, in 1891.

FIRST RECORD, 1842: West Wickham Wood (Douglas, *Entomologist*, **1**: 309).

**O. munda** Schiff.: Twin-spot Quaker.

Native. Woods, copses; on oak, maple. Recorded from all divisions, except 4. Perhaps casual in 2, 9, 15. Apparently rather scarce in 3. "Generally distributed and common" (V.C.H. (1908)).

The larva has been found on maple, by D. R. M. Long, at Eynsford; and on oak, by Fenn (*Diary*), in the Lee district.

2. Gravesend (H. C. Huggins).

3. Broad Oak.—It may be of interest to record that I assiduously worked the sallows in the woods in this area from 1937-40 without seeing it once; Barton Wood, one, March 25, 1943 (C.-H.). Whitstable (P. F. Harris). Eddington, one, at sallow, March 18, 1948 (D. G. Marsh).

9. Broadstairs, one, at sugar, c. 1947 (J. W. C. Hunt).

15. Dungeness, two, April 4, 1946 (A. M. Morley).

VARIATION.—The following abs. are in R.C.K.: *pallida* Tutt, Bexley; *fasciata* Lenz, West Wickham; *cruda* Foltin, Bexley; *rufomaculata* Lempke, Chatham district, 1909, Bexley; *immaculata* Stgr., Chatham district, 1909; *cruda* Foltin + *rufomaculata* Lempke, Bexley; *albescens* Cockayne, holotype, Chislehurst, 1902.

Ab. *immaculata* Stgr. has been recorded from West Wickham (Auld, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1894: 35), and Aylesford (Davis, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1955: 23).

FIRST RECORD, 1842: West Wickham Wood (Douglas, *Entomologist*, **1**: 309).

**O. advena** Schiff. (*opima* Hübn.): Northern Drab.

Resident, perhaps native. Salt marshes, waste places, etc.; on *Limonium vulgare*, *Artemisia vulgaris*, Loganberry. The moth has much increased within recent years.

1. Between Bexley and Crayford, larvae found in 1934 by L. T. Ford, in shoots of *A. vulgaris*, growing on some waste ground, from which five

imagines were bred† (L. T. Ford). Lee, one, 1949 (D. Lanktree); in m.v. trap, one, April 17, 1953, one, May 7, 1954, one, April 26, 1957, one, April 23, 1962†, none, 1963-64 (C. G. Bruce). West Wickham, one, at m.v.l., April 25, 1952† (E. E. J. Trundell). Bromley, in m.v. trap, two, 1960 (the second example on May 23), two, 1961 (the first example on April 1), thirteen, 1962† (with maximum of five, on May 7), none in 1963-64 (D. R. M. Long).

2. Medway Marshes, Strood, two ♀♀, May 16, 1910 (Ovenden, *Ent. Rec.*, 22: 146). Nagden Marshes, near Faversham, "when looking on Sea Lavender I noticed the outside edges of some leaves were turned over and contained small larvae, from these I reared three *opima* in April 1941"† (P. F. Harris, *in litt.*); ♂, taken flying, April 25, 1952 (C.-H.).

5. Chevening, six, taken at light, April 20-29, 1914 (Gillett, *Entomologist*, 47: 227-228). Westerham, at light, one, April 20, 1939, one, May 5, 1951, one, 1961† (R. C. Edwards).

6. Pinden, one, April 18, one, April 30, 1952† (E. J. Hare).

10. Sevenoaks, April 18, 1920 (Gillett, *Diary*).

11. Tonbridge, three at light, 1871 (Raynor, *Entomologist*, 6: 79). East Malling, 1942, 20-30 imagines reared from larvae collected from loganberry, imagines det. by H. M. Edelsten (Massey, *Rep. E. Malling Res. Stn.*, 1942: 65).

15. Dungeness, in m.v. trap, three, May 3, 1962, six, April 27-May 4, 1963†, four, April 25-27, 1964 (R. E. Scott).

**VARIATION.**—Most of the Kentish *advena* that I have seen are slate-grey with the central band fairly clearly marked; three of L. T. Ford's specimens are blackish-brown, and perhaps referable to ab. *fusca* Gregson. My only Kentish example, from Nagden, has the f.w. of a peppery-yellow with an indistinct median band, and is unlike any other *advena* that I have seen (C.-H.).

FIRST RECORD, 1872: Tonbridge (Raynor, *Entomologist*, 6: 79).

#### O. *gracilis* Schiff: Powdered Quaker.

Native. Woods, carr, marshes, etc.; on sallow, bramble, *Filipendula ulmaria*, *Potentilla erecta*, *Hippophae rhamnoides*. Frequent, and recorded from all divisions. "Generally distributed and not scarce" (V.C.H. (1908)).

Though seldom noted plentifully in Kent, on two occasions the moth was recorded as having occurred in comparative abundance at Dungeness. Thus, on April 12, 1963, B. F. Skinner saw about fifty at m.v.l., adding that it was by far the commonest moth there that night; and Morley (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1946-47: 36) noted forty specimens at sallow, April 4, 1946<sup>1</sup>, some of which he exhibited.

<sup>1</sup>A remarkable night at this locality, not only for the appearance of certain species in unusually large numbers, but also for the first and only records for the area of *Orthosia miniosa* Schiff., *Triphosa dubitata* L. (several of both), and the occurrence of the very rare *Lithophane furcifera* Hufn.

Jones (*Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1899: 73) records the larva as having been very common one season at Eltham in terminal shoots of sallow; and at Greatstone, S. Wakely found one on *H. rhamnoides* (S. Wakely). D. R. M. Long has found the larva at Crofton (div. 1) on sallow, bramble, and *F. ulmaria*; on July 3, 1960, I found several larvae on *F. ulmaria*, at Ham Fen; and at Faggs Wood, Ham Street, June 12, 1960, a

few on *P. erecta* (C.-H., Proc. S. Lond. ent. nat. Hist. Soc., 1960: 84).

VARIATION.—The majority of Kentish *gracilis* that I have seen have the f.w. ranging from pale greyish-white to pale greyish-cream, dusted with grey atoms, subterminal line pale ochreous, the stigmata fairly clearly outlined; a ♀, West Wickham, 1963, has the f.w. pinkish-ochreous; occasionally there occurs a very pretty ab. tinged throughout with rose-pink, one such ♂, Chilham, 1937, and I have seen others (C.-H.). A. M. Morley states that of the forty *gracilis* noted at Dungeness, April 4, 1946, many were pink.

Deep reddish-brown forms approximating to ab. *rufescens* Ckll. used to occur in the "North Kent Marshes", but the location(s), dates, and circumstances of capture are no longer known, and none of these forms has been seen in Kent now for some fifty years or more. Tutt (1896, Br. Moths, 189) mentions that these dark forms also occurred in the "Sevenoaks district"; and Barrett (1899, Br. Lep., 5: 220) states that "rich liver-coloured and purple-grey specimens have been obtained by B. A. Bower in N. Kent". For further information on these forms in Kent, which together with the foregoing amounts to everything that it has been possible so far to discover regarding them, cf. Entomologist, 85: 261.

FIRST RECORD, 1829: Darent Wood (Stephens, Haust., 2: 142).

**Panolis flammea** Schiff. (**piniperda** Panz.): Pine Beauty.

Native. Woods; on *Pinus sylvestris*.

1. Birch Wood (Curtis, Br. Ent., 117); larvae abundant (Stephens, Haust., 3: 20). Dartford\* (Allchin, Ent. week. Int., 7: 204). West Wickham, many records (cf. Entomologist, 1: 309, 43: 204; Ent. week. Int., 10: 117, 196; Ent. mon. Mag., 1: 190; Young Nat., 7: 116; Ent. Rec., 2: 87; Lond. Nat., 1955: 47); March 13, 1961 (C. G. Bruce). Plumstead (Courtney, Entomologist, 1: 227). Bostall Wood; Halfway Street; Dartford Heath; Bexley; Paul's Cray (Wool. Surv. (1909)). Keston (Wool. Surv. (1909)); larvae, July 5, 1928 (A. R. Kidner); one, at sugar, April 1949, beat 17 larvae in 2 hours, June 23, 1950 (W. A. Cope). Chislehurst, larvae (S. F. P. Blyth). Orpington, 1954 (L. W. Siggs). Sundridge Park, one, June 5, 1946; Hayes and Keston Common, 1946-48 (J. F. Burton).

3. Church Wood, ♀, at sallow, March 21, 1933 (A. J. L. Bowes). Oldridge Wood, c. 1946 (J. A. Parry). Littlebourne, one, April 19, 1947 (G. H. Youden). Thornden Wood, one on trunk (P. F. Harris). Blean Woods, several (D. G. Marsh). Nackington, one, 1953 (P. B. Wacher). Eddington, ♀, at m.v.l., May 22, 1951 (D. G. Marsh, Diary).

4. Ickham, one, c. 1956 (D. G. Marsh).

5. Farnborough; Downe (Wool. Surv. (1909)).

6. Shoreham, 27 larvae beaten out from two expeditions (W. A. Cope); larva on *P. sylvestris*, 1949 (F. D. Greenwood). Pinden, one, April 1952 (E. J. Hare). Otford, one, 1955 (W. B. L. Manley).

6a. Darent (Huckett, Ent. week. Int., 10: 117).

7. Wigmore Wood (Chaney (1884-87)). Detling, one, April 18, 1929 (Bull, Diary). Westwell, March 28, 1935 (A. J. L. Bowes); May 10, 1952 (E. Scott). Boxley, 1953 (A. H. Harbottle).

8. Folkestone\* (Ullyett (1880)). Kearsney, bred, ♂ ♀, March 11, 1895, ex larvae (Stockwell, Diary). Shepherdswell, larvae on pines, 1946 (G. H. Youden). Brook, one, April 14, 1952 (E. Scott). Lyminge Forest, larvae, May 22, 1953 (P. Cue). Dover, one, 1954 (B. O. C. Gardiner).

10. Seal Chart (Carrington, *Entomologist*, 13: 79). Sevenoaks (Hill, *Entomologist*, 19: 185). Westerham (Turner, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1892-93: 111); larva (Leston, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1951-52: 72). Brasted, May 17, 1913, larva 1916 (Gillett, *Diary*).

11. Wateringbury (V.C.H. (1908)). Mereworth (H. C. Huggins); two, at sallow, 1934 (J. Fremlin). Benenden, one, April 22, 1928 (G. V. Bull, *Diary*). Hoads Wood, April 9, 1955 (P. Cue). Aylesford (G. A. N. Davis).

12. Willesborough Lees; Ashford Warren (Scott (1936)). Ham Street Woods.—(Scott (1936)); two, April 1, 1938 (A. H. Lanfear); one, at m.v.l., Long Rope Wood, May 25, 1951 (C.-H.); one, June 10, 1960 (R. G. Chate-lain); common at sallow bloom, Orlestone Woods, April 19, 1963 (M. Singleton). Chartham (P. B. Wacher). Wye, two, May 19-20, 1953, eight, March 26-May 16, 1954, four, March 26-May 13, 1955, four March 27-April 10, 1956 (W. L. Rudland). West Ashford, one, at light, 1960; two, 1961 (M. Enfield). Ashford Town, 1958 (P. Cue).

13. Tunbridge Wells (E. D. Morgan); common (H. E. Hammond). Groombridge, larvae (Bull, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1931-32: 59). Goudhurst, numbers at m.v.l. (W. V. D. Bolt, *personal communication*, 1961).

14. Tenterden, 1960 (C. G. Orpin).

16. Folkestone, one, May 18, 1952 (A. G. Riddell, teste A. M. Morley). Sandgate, two, 1961 (N. Reay-Jones).

VARIATION.—Turner (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1892-93: 111) exhibited a specimen from Westerham, "in which green was the prevailing colour".

FIRST RECORD, 1826: Birch Wood (Curtis, *Br. Ent.*, 117).

#### LEUCANIINAE

##### **Meliana flammea** Curt.: Flame Wainscot.

Probable immigrant. Three only.

The first reference to this species is by Curtis (*Br. Ent.*, 201) who says: "The only specimen I have seen of this insect was purchased of a collector by Mr. Dale. It is understood to have been taken at Lewisham near London". Stephens (*Hast.*, 4: 298) has: "Said to have been taken near Lewisham, towards Lee, in July".

In 1964, a ♂ taken in Ashford (div. 12) in m.v. trap on May 24, by P. Cue (P. Cue, *in litt.*); and another on the same date was taken at m.v.l., at Pinden (div. 6) by E. J. Hare (C. G. M. de Worms),

FIRST RECORD, 1828: Curtis, *Br. Ent.*, 201. This is also the original type reference.

##### **Leucania pallens** L.: Common Wainscot.

Native. Rough grassy places; foodplant unknown. Plentiful in all divisions. Regularly double brooded, those of the second generation smaller in size. "Generally abundant" (V.C.H. (1908)).

It is noteworthy that there appears to be no record of the discovery of any of the early stages in nature of this very common moth.

VARIATION.—The nymotype and ab. *ochracea* Steph., appear to constitute the bulk of Kentish specimens; ab. *rufescens* Haw. is of fairly frequent occurrence, and I have examples of this from many different localities; on the other hand I have only one that I judge to be ab. *ectypa* Hübn., the ground of the f.w. being of a deep red, a ♂, taken at

West Wickham, September 9, 1950; ab. *suffusa* Steph. is recorded by Tutt (*Br. Noct.*, 1: 42) from Deal, and I have a ♂ that may be this, taken Sandwich, August 26, 1950 (C.-H.).

In R.C.K. are ab. *rufescens* Haw., three, from Kent; ab. *arcuata* Steph., one, Wilmington, June 19, 1904; also, numerous examples from Kent referable to nymotypical *pallens* L.

Stephens (Haust., 3: 77) described ab. *ochracea* on the basis of two specimens, one of which was taken at Darent Wood (see *First Record*).

FIRST (PUBLISHED) RECORD, 1829: *Leucania ochracea* Steph., one, taken at Darent Wood, c. 1819 (Stephens, *loc. cit.*).

**L. favicolor** Barr.: Mathew's Wainscot.

Native. Salt-marshes, casually elsewhere; on "grass".

2. Strood district, bred early summer, 1903, from larva taken off grass early spring (Ovenden, *Ent. Rec.*, 16: 269). Isle of Grain, June 29-July 8, 1908 (Ovenden, *Ent. Rec.*, 21: 32). Near Queenborough, six, including both red and yellow forms, early July 1906 (Jacobs, *Entomologist*, 39: 210; idem, *Ent. mon. Mag.*, 42: 211; idem, *Ent. Rec.*, 18: 240). Queensferry Bridge (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1931-32: 91, 1932-33: 111); few, July 1937 (A. J. L. Bowes); a few on both banks of the Swale, 1949, 1955 (C.-H.). Chetney and Funton Marshes (H. C. Huggins); at sugar, 1935 (de Worms, *Entomologist*, 69: 133). Aylesford, one, 1950, two, 1954 (G. A. N. Davis). Nagden Marshes, plentiful, flying and at rest on grass stems, June 25, 1952; numerous, July 17, 1953, Stoke Saltings, one, worn, August 1, 1962 (C.-H.).

7. Westwell, one, ab. *rufa-typica* Tutt, July 3, 1953 (Scott, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1953-54: 43, where it is recorded as *L. straminea* Treits. in error; C.-H. coll.).

11. Tunbridge Wells district (R. H. Rattray, in Knipe (1916)).

VARIATION.—At Nagden, about one in four is ab. *rufa* Tutt; and what I judge to be the following ab. have occurred to me there: *lutea* Tutt, *pallida* Math., nymotypical *favicolor* Barr., *aenea* Math. (one), *obscura* Math., *intermedia* Tutt, *rufa-typica* Tutt. It should be noted that the nymotype, which has a series of dashes (see Barrett, *Br. Lep.*, 5: plt. 201, fig. 3.) on honey-buff ground is not common, but that the ab. with this ground without the dashes and only the discal dot and two dots representing elbowed line, is perhaps the most numerous form (C.-H.).

The following ab. from Kent, are in R.C.K.:—*rufa* Tutt, numerous; *obscura*, two; *fusco-rosea* Math., one; *lutea* Tutt, three; *aenea* Math., four; nymotypical *favicolor* Barr., two; *obsoleta* Tutt.

FIRST RECORD, 1904: Strood district (Ovenden, *Ent. Rec.*, 16: 269).

**L. impura** Hübn.: Smoky Wainscot.

Native. Rough grassy places, marshes; foodplant unrecorded. In all divisions. "Generally abundant" (V.C.H. (1908)).

It is interesting to note that this species is normally far more numerous than *L. comma* (q.v.), but that at Dungeness the reverse is very much the case.

Occasionally there appears to be a partial second generation. Thus, at Wye, in 1953, W. L. Rudland recorded a total of 61, June 28-August 19, with one on October 2, and in 1955, a total of 46, June 28-August 11, with one on October 7.

A. R. Kidner (*Diary*) records taking the larva at Sidcup on the following dates but fails to specify foodplant: June 26, 1926, May 13, 1928, two, April 30, 1936.

VARIATION.—Of ab. *punctilinea* Tutt, (*Br. Noct.*, 1: 40) says "I have a few specimens of this variety, showing the extreme variation in the development of these dots, captured on Greenwich Marshes in 1883; but such forms are rare".

FIRST RECORD, 1859: Deal (Harding, *Ent. week. Int.*, 6: 196).

### **L. straminea** Treits.: Southern Wainscot.

Native. Marshes, mainly coastal; on *Phragmites communis*. Probably casual in 3, 9, 16.

1. Lee Swamp, one, July 3, 1863 (Fenn, *Diary*).

2. Widespread, locally numerous, and recorded from many localities in this division. Greenwich Marshes (Jones, *Ent. week. Int.*, 10: 187); formerly "a hundred *Leucania straminea* could easily be netted in a single evening, and hundreds of others seen" (Tutt, *Ent. Rec.*, 18: 141); locality now destroyed (West, *Ent. Rec.*, 18: 200). Near Sheerness, 1871 (Walker, *Ent. mon. Mag.*, 8: 185). Rochester, larvae (Ovenden, *Ent. Rec.*, 19: 230). Shorne Mead, larvae common on Reed (H. C. Huggins).

More recent records are:—Northfleet, 1922 (L. T. Ford). Shorne Mead, larvae, July 1, July 3 (6), July 10, 1926 (F. T. Grant). Near Rochester (de Worms, *Entomologist*, 69: 133). Sittingbourne (H. C. Huggins). Aylesford, numerous, c. 1953 (G. A. N. Davis). Cliffe Marshes, August 21, 1960; Higham (B. K. West). Faversham, June 25, 1952 (C.-H.).

3. Whitstable, one, June 24, 1936 (B. Embry, teste G. H. Youden).

4. Deal, 1906 (Brown, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1906-07: 86). Minster Marshes, one, August 10, 1927 (H. G. Gomm, *Diary*). Reculver, July 20, 23, 1934, July 23, 1935, July 22, 1936 (A. J. L. Bowes); August 5, 1946 (C.-H.). Sandwich, August 8, 1938, at sugar (A. J. L. Bowes); several at sugar, August 5, 1946, July 28, 1951, at marram (C.-H.). Ham Fen, June 17, 1950, fairly numerous on rush flowers, July 2, 31, 1955 (C.-H.).

[(7. Westwell (Scott, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1953-54: 43), refers to *L. favicolor* (q.v.))]

9. Margate, two, 1920, one, September 30, 1921† (H. G. Gomm. coll.).

11. Great Chart, one, 1934 (Scott (1936)).

12. Willesborough, one, taken at light, 1956† (M. Singleton).

15. Romney Marsh (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1931-32: 91). Dungeness, August 14, 1934, August 6, 1938 (A. J. L. Bowes); one, August 28, 1954 (P. Cue); one, September 27, 1946, one, August 8, 1955 (G. H. Youden); three, 1935-37 (B. Embry, teste G. H. Youden); one, August 18, 1958 (E. C. Pelham-Clinton); two, at sugar, June 30, 1962 (R. Birch-Enough); two, in m.v. trap, July 3-24, 1963 (R. E. Scott). Dymchurch, 1947 or 1948 (P. le Masurier); (Wakely, *Ent. Rec.*, 65: 44). Appledore, over a dozen at light, August 11, 1956; Hythe, by the canal, July 13, 1957 (P. Cue).

16. Folkestone\*, 1858 (H. Tompkins, *Diary*); (Ullyett (1880)). Folkestone Town, July 17, 1955 (A. M. Morley).

VARIATION.—I have ab. *rufolinea* Tutt, Ham Fen, 2 ♂♂, Sandwich, ♂; ab. *punctilinea* Lempke, singletons from Ham Fen, Faversham, Reculver, Sandwich (C.-H.). In R.C.K., are the following ab. from Kent: *punctilinea* Lempke, two; *rufolinea* Tutt, three; *intermedia* Tutt, four.

FIRST RECORD, 1858: Folkestone, between July 24 and August 1, 1858 (H. Tompkins, *Diary*).

**L. pudorina** Schiff. (*impudens* Hübn.): Striped Wainscot.

Native. Marshes, heaths; foodplant unknown.

1. Paul's Cray Common, five, July 21, 1888 (Fenn, *Diary*); two, 1898 (W. A. Cope). Eltham (Tutt, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1898: 11), and Chislehurst (V.C.H. (1908)), may both refer to the preceding locality. Lee district, 1900 (Bower, *Ent. Rec.*, 12: 340). Bromley, one, June 18, 1964 (D. R. M. Long).
2. Greenhithe\* (Farn MS.); (V.C.H. (1908)).
4. Deal, July 9, 1891 (Fenn, *Ent. Rec.*, 2: 203); one, July 2, 1948 (G. H. Youden). Sandwich (V.C.H. (1908)), may refer to the preceding locality. Sandwich, one, June 20, 1933, one, July 2, 1948, one, June 22, 1952 (G. H. Youden); Sandwich Bay, not uncommon (E. & Y. (1949)). Ebbsfleet (A. G. Peyton, teste A. J. L. Bowes); five, June 16, 1952 (C.-H.). Westbere, two, June 24, three, June 27, one, June 30, 1946 (C.-H.); June 24, 1950 (G. H. Youden). Ham Fen, four, June 17, 1950, one, July 2, 1955 (C.-H.).
5. Westerham, one, pre. 1950 (R. C. Edwards).
7. Westwell, one, June 21, 1953 (G. H. Youden).
8. Brook, eight, 1952-53 (C. A. W. Duffield, teste E. Scott); at light on the downs, June 3, 1961 (de Worms, *Entomologist*, 95: 101).
11. Hoads Wood, about nine, including three pairs *in cop.*, June 14, 1961 (B. K. West).
12. Ashford, one, c. 1953 (P. Cue); 1958 (Manley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1958: 33). Wye, one, July 16, 1955, one, July 24, 1956 (W. L. Rudland). Hothfield, two, June 27, 1962 (G. H. Youden).
13. Ramslye district, several (Knipe (1916)).
15. Dungeness, 1959 (C. R. Haxby); one, at floodlights of new lighthouse, July 5, 1962 (R. E. Scott).

FIRST RECORD, 1888: St. Paul's Cray Common (Fenn, *Diary*).

**L. obsoleta** Hübn.: Obscure Wainscot.

Native. Reed beds of estuarine marshes; foodplant unknown. Apparently very scarce.

1. Brockley (West, *Ent. Rec.*, 18: 200).
2. Thames side [Gravesend], 1868, at sugar (Button, *Entomologist*, 4: 115). Gravesend, a fine series at sugar (in 1868) (Button, *Entomologist*, 4: 129); July 10, 1869, a few (Miller and Jones, *Ent. mon. Mag.*, 6: 114). Faversham (Morris, *Br. Moths*, 2: 82). Higham, two, July 4, 1874 (Fenn, *Diary*). Greenhithe, one, 1894, in moth trap (Farn MS.) (V.C.H. (1908) probably refers). Rochester district, one, 1904 (Ovenden, *Ent. Rec.*, 16: 239). Fleet near Cliffe, 1906-09, always uncommon (H. C. Huggins). Cliffe (V.C.H. (1908)). Sittingbourne, one, 1922 (L. T. Ford). Eastchurch Marshes, several, 1936 (E. H. Wild). Dartford, ♂, July 16, 1950 (B. K. West). Aylesford, one, 1954 (G. A. N. Davis).
4. Between Sandwich and St. Margaret's Bay, occasionally in August (1883) (Shepherd, *Entomologist*, 17: 138). Deal, two, August 1902 (Browne, *Entomologist*, 35: 269). Minster, two, 1903, two, 1904, two, 1905, in J. Platt Barrett coll. (C.-H.). Ham Fen, ♂, at flowers of rush, July 2, 1955 (C.-H.). Sandwich, two, at sugar, July 6, 1962 (B. K. West). Ickham, one, July 9, 1964 (D. G. Marsh).
12. Ashford, one, July 9, 1963 (P. Cue).
15. "Romney Marsh", one so-labelled, ex G. V. Bull coll. (C.-H. coll),

"Romney Marsh", one so-labelled in same handwriting as preceding, ex "Willoughby-Ellis coll.", is in R.C.K. (C.-H.).

FIRST RECORD, 1868: Button, *Entomologist*, 4: 115.

**L. litoralis** Curt.: Shore Wainscot.

Native. Coastal sandhills; on *Ammophila arenaria*.

4. Kent Coast [Deal] (see *First Record*). Deal-Sandwich sandhills.—"best obtained by beating out the dead herbage on the sand-drifts near the sea" (1856) (Harding, *Ent. week. Int.*, 1: 99); July 1888 (Tutt, *Young Nat.*, 9: 164); one, at sugar, August 18, 1888, one, July 12, 1889, July 4, 1891 (Fenn, *Diary*); "common" V.C.H. (1908); two, at sugar, June 22, four, July 13, still fresh, July 19, 1936 (A. J. L. Bowes); at Sandwich Bay, one, June 30, 1939, two, June 30, 1950 (C.-H.).

15. Littlestone-Greatstone sandhills.—1930 (Morley (1931)); about twenty at sugar, c. 1950 (R. Birchenough); at Greatstone, about 30 larvae after dark on marram (*A. arenaria*), many of them full-grown, May 25, 1963; five, at m.v.l., July 16-21, 1963 (C.-H.). Dungeness, one, at light, July 27, 1956 (R. F. Bretherton).

FIRST RECORD, 1854: Kent Coast, exhibited by H. J. Harding, at Society of British Entomologists, September 6, 1854 (*Zoologist*, 4484).

**L. comma** L.: Shoulder-striped Wainscot.

Native. Marshes, meadows, wood-borders, etc.; foodplant unknown. Fairly numerous and found in all divisions.

The moth has been recorded as being particularly plentiful at Dungeness. Thus, in 1962, a total of 521 were counted there by R. E. Scott in his m.v. trap between June 8 and July 26, and in 1963, 401 between June 9 and July 26. In 1963, R. E. Scott's records for Dungeness show that at m.v.l., *comma* was over four times as numerous as *L. impura*, and more than 20 times as numerous as *L. pallens*.

In 1924, Bull (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1928-29: 85) took one at Sandhurst on October 24, presumably a representative of a partial second generation.

Hammond and Smith (*Ent. Gaz.*, 8: 184) record that in 1955, many *Apanteles fulvipes* Hal. were bred from [a larva of] *L. comma* from Dungeness.

VARIATION.—Tutt (*Br. Noct.*, 1: 37) records ab. *suffusa* Tutt from Deal, and says: "It is worthy of remark that my Deal series includes the darkest, and at the same time the palest British specimens I have ever seen".

FIRST RECORD, 1829: Near Dartford (Stephens, *Haust.*, 3: 74).

**L. unipuncta** Haw.: White-speck Wainscot.

Immigrant. Coastally in 4, 15. Three examples only in 85 years.

The first Kentish *unipuncta* was taken by Professor Meldola at Walmer on September 1, 1878 (Meldola, *Ent. mon. Mag.*, 15: 107). 1938: Dungeness, September 30, ♂, taken at sugar by A. M. Morley (Morley, *Entomologist*, 71: 261; idem, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1938-39: 27). 1963: Dungeness, September 21, ♂, taken at m.v.l., by R. Hayward (R. Hayward, *personal communication*, 26.x.1963).

[At B. W. Adkin coll. sale (4th portion, lot 170, 26.x.1949), a hitherto unrecorded specimen stated to have been taken at Margate by Ramsay

Cox, is considered of doubtful origin, in view of the fact that Cox had a series of *unipuncta* which he took in Australia (cf. *Entomologist*, **8**: 134).]

FIRST RECORD, 1878: Walmer (Meldola, *Ent. mon. Mag.*, **15**: 107).

**L. album** L.: L-album Wainscot.

Immigrant. Only one authentic capture.

15. Dungeness, September 9, 1934, one, taken at sugar by S. Poole (Poole, *Entomologist*, **67**: 237; W. T. Mellows, *in litt.*).

[Near Tunbridge Wells, 1869 (Shepherd-Walwyn, *Ent. Rec.*, **13**: 376). Pine Wood, near Canterbury, 1869, 1872 (Parry, *Insect Hunter's Year Book*, 1869: 6; idem, *Entomologist*, **6**: 241; *Ent. Ann.*, 1873: 36; *Proc. ent. Soc. Lond.*, 1873: xxvii; *Ent. mon. Mag.*, **45**: 178). Preston, near Canterbury (Parry, *Entomologist*, **80**: 22); the specimen is labelled "Rev. Hurst, Preston, 1884"† (C.-H.).]

FIRST (CONFIRMED) RECORD, 1934: Dungeness (Poole, *Entomologist*, **67**: 237).

**L. vitellina** Hübn.: Delicate.

Immigrant. Shingle beach, etc.; on "grass".

Although nearly 200 *vitellina* have been recorded for Kent, it is remarkable that altogether only about four individuals are known to have occurred prior to 1900. The majority have been noted since 1930, and in 1935, 1938 and 1962, it was in considerable numbers. The moth has chiefly been taken at sugar, mostly on the east and south-east coast, especially in div. 15, and is seldom seen inland. Almost all have appeared in the autumn, and only one case is known of a first generation (June) example. There is no evidence of winter survival, but in September 1934, several imagines were taken that had just emerged, thus showing that in a favourable year the species can breed here resulting from primary immigration.

1869-1882.—1869: Canterbury, one, October 7 (Parry, *Entomologist*, **5**: 58; Knaggs, *Ent. Ann.*, 1870: 124). N.d.: Deal (Harbour, *Entomologist*, **14**: 18); Folkestone, "very rare" (Ullyett (1880)). 1882: Near Herne Bay, 3, September 30, taken by Downing, in Dale coll. (Walker, *Ent. mon. Mag.*, **45**: 178).

1900-1930.—Margate district, five, September 21 (Barrett, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1900: 101; idem, *Entomologist*, **34**: 23). 1901: St. Margaret's Bay, one, taken by E. D. Green (Dannatt, *Ent. Rec.*, **13**: 373). 1902: Bridge, two, October (Green, *Ent. mon. Mag.*, **39**: 15). 1905: Sandwich, one, September 27, in J. Platt Barrett coll. (C.-H.). 1907: Dover, nine, October (Dannatt, *Entomologist*, **40**: 256, **57**: 186); Dover, October 1, at sugar (P. A. Cardew, *Diary*). 1908: Dover, four, October (Dannatt, *Entomologist*, **57**: 186; *Proc. S. Lond. ent. nat. Hist. Soc.*, 1909-10: 79). Near Sheerness, two, late September, taken by R. S. Gwatkin-Williams (Mathew, *Entomologist*, **43**: 351). 1920: Kingsgate, one, October 5 (Parris, *Entomologist*, **53**: 286). 1923: Bexley, one, October 5, to window light (Ford, *Entomologist*, **57**: 139). 1930: Sandhurst, one, September 23 (G. V. Bull).

1932-1938.—1932: Dungeness, three (A. M. Morley, *per* Rothamsted). 1934: Dungeness, September 8 (G. W. Wynn, *fide* A. J. L. Bowes); five, September 17, one, September 21 (Beckwith Whitehouse MS.). 1935: Most of the records are for Dungeness, and A. M. Morley has a note that altogether he had heard of 22 taken there in 1935, this includes one taken

by himself, fifteen by friends, and six more about which he had been told (C.-H.). Dungeness, ♀, September 13, ♀, "laying on grass", September 17, four, September 21, four reported taken, September 28 (Beckwith Whitehouse MS.); 2 ♂♂, 1 ♀, taken, at least six seen (C. N. Hawkins, *per* Rothamsted). Romney Marshes [Dungeness] "several just emerging", September 21, three, September 22 (de Worms, *Entomologist*, **69**: 158). East Kent [Dungeness] 1 ♂, 3 ♀♀, September 23 (G. A. Cole and W. Pooles, *per* Rothamsted). Sandwich, one, September 14 (Hughes, *Entomologist*, **68**: 273). Reculver, ♂, September 15 (A. J. L. Bowes). Ramsgate, ♀, October 4 (Peyton, *Entomologist*, **68**: 257). 1936: Dungeness, ♂, September 8, ♀, September 13 (Embry, *Entomologist*, **69**: 259). 1937: Dungeness, ♂, September 27 (Embry, *Entomologist*, **70**: 254). 1938: The records appear to be all for the Dungeness area, and according to de Worms (*Entomologist*, **72**: 263), a total of about sixty were recorded for there in the autumn, of which Morley (per Dannreuther, *Entomologist*, **72**: 120) states that about fifty occurred between September 19 and 24. ♂, September 11 (Bowes, *Ent. Rec.*, **51**: 109); about six, September (G. V. Bull, *per* Dannreuther, *Entomologist*, **72**: 15); one, September 7, and others, September 12, 14 (de Worms, *Entomologist*, **72**: 262-263); two, September 28 (C.-H.).

1945-1962.—1945: Sandwich, one (E. & Y. (1949)); Goodnestone, ♂, September 3 (Parfitt, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1945-46: 28). 1948: Ham Street, one, September (A. Richardson, in Scott (1950)). 1950: Dover, one, at light, September 10 (Youden, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1950-51: 50); Deal, ♀♂, taken by C. M. Gummer, September 28, 30 (Rothamsted). 1951: Folkestone Town, one, September 29, by A. G. Riddell (Morley, *Ent. Rec.*, **64**: 171); Westerham (div. 5), one, October (Edwards, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1951-52: 27). 1953: Folkestone Town, one, at light, September 21 (A. M. Morley). 1954: Sandwich, one, September 20 (B. J. MacNulty); one, September 26 (B. K. West); Dover, one, October 7 (G. H. Youden, *per* Duffield, *Trans. Folkestone nat. Hist. Soc.*, 1954: 24); Wye (div. 12), ♂, October 8 (W. L. Rudland); Romney Marsh, two, September 28-October 3 (Kettlewell, *Entomologist*, **88**: 45); Folkestone Town, ♀, October 15, by R. W. Fawthrop (A. M. Morley). 1956: Dover, one, June 11 (G. H. Youden); Dungeness, ♀, September 30 (Messenger, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1956: 37, *Ent. Rec.*, **68**: 269). 1960: Sandgate, one (N. Reay-Jones). 1961: Dover, one, September 30, one, October 6, both at m.v.l. (G. H. Youden); Ickham, ♂, August 29 (Marsh, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1961: 43); Tenterden, one, August 27, one, September 9; Pinden, one, September 1; Dungeness, one, September 17, one, September 29 (*per* Rothamsted). 1962: Dover, three, in m.v. trap, October 4-6 (G. H. Youden); Bromley, one, in m.v. trap, October 3 (D. R. M. Long); Folkestone Town, ♀♂, October 2-3 (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1962: 42); Dungeness, October 1-4, twenty-five (Wightman, *Ent. Rec.*, **74**: 237); Ickham, five, October 1 and 4 (D. G. Marsh, *per* Rothamsted). Brook, one (Duffield teste E. Scott).

VARIATION.—Cockayne (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1937-38: 19) states that Dungeness specimens are less red than those from S. Devon. Wightman (*Ent. Rec.*, **74**: 237) however, records that of the 25 noted by him at Dungeness in 1962, although mostly ab. *pallida* Warr., "a few were very large and dark, a form between typical *vitellina* Hübn. and the highly red ab. *saturatior* Dnhl.". Embry (*Proc. S. Lond. ent. nat. Hist. Soc.*,

1937-38: 22) exhibited ab. *pallida* from E. Kent.

FIRST RECORD, 1870: Parry, *Entomologist*, 5: 58.

**L. albipuncta** Schiff.: White Point.

Resident, perhaps reinforced by immigration. Rough fields, chalky places, wood borders, etc.; on "grass". Recorded from all divisions, except 10, 13. Mostly observed in East Kent, particularly on the coast.

It is noteworthy that there is no record for the period 1913 to 1931, but that from 1932 to 1963 the moth was noted annually, except for the war years, 1940-44, and in 1950 a total of over 100 *albipuncta* was recorded.

On April 4, 1937, A. M. Morley found a larva feeding on grass in Alkham quarry (div. 8), from which he bred a ♂ *albipuncta* on July 11 that year.

1868-1896.—1868: Folkestone, August 15, one at sugar; one, much worn, on or about October 5, within 5 yards of the first, and one other supposedly this species that escaped (Briggs, *Proc. ent. Soc. Lond.*, 1868: xxxix; idem, *Ent. mon. Mag.*, 5: 173; idem, *Entomologist*, 4: 222). [1869: Canterbury, August 12 (1), 16 (1), 17 (1), 19 (3) (Parry, *Entomologist*, 7: 16-17).] 1870: Folkestone, one, August 17 (Vaughan, *Ent. mon. Mag.*, 7: 87); August 18 (1), 23 (2), and one a few days later (Ullyett, *Ent. mon. Mag.*, 7: 111); [Blean, Hospital and Pine Woods, eleven (Parry, *Entomologist*, 5: 172, 7: 16-17).] [1871: Near Canterbury about 20 (Parry, *Entomologist*, 5: 417, 7: 16-17).] [1872: Near Canterbury, nine (Parry, *Entomologist*, 7: 16-17).] 1873: Folkestone, ♀, August 30 (Jones, *Ent. mon. Mag.*, 10: 118); two. September 1 (Oldham, *Entomologist*, 6: 519); Sheppey, two at sugared thistle heads, August 24 (Hodgson, *Ent. mon. Mag.*, 10: 180); Near Canterbury, five (Parry, *Entomologist*, 7: 16-17).] 1874: Folkestone, two, September (Oldham, *Entomologist*, 7: 228). 1875: West Wickham Wood, one, August 24 (Channon, *Entomologist*, 8: 228); Folkestone (Oldham, *Entomologist*, 28: 308). 1876: Deal Sandhills, two, August 23 (Andrewes, *Entomologist*, 9: 232); Folkestone (Oldham, *loc. cit.*). 1877: Deal, one, August (Tugwell, *Naturalist, new series*, 3: 41); Walmer, two, August 26 (Meldola, *Entomologist*, 10: 255); Folkestone (Oldham, *loc. cit.*, 1878: Folkestone, August 14 (♀), 25 (♂) (Heatherley, *Entomologist*, 11: 230). 1879: Folkestone (Oldham, *loc. cit.*). 1884: Sandwich dist., two (Tutt, *Entomologist*, 18: 71). 1891: Folkestone Warren, one taken off ragwort flowers, end of August (Barker, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1890-91: 135). 1892: Folkestone, one, August (Austen, *Proc. Folkestone nat. Hist. Soc.*, 1892: 26). 1893: Folkestone Warren, one taken by W. J. Austen in May (Austen, *fide* Fenn, *Diary*). 1895: Willesborough Lees, one, August 24 (Chittenden, *Entomologist*, 28: 281); Folkestone, one, September 7 (Oldham, *Entomologist*, 28: 308). 1896: Yalding, one, September 19 (S. G. Reid, in V.C.H. (1908)).

1900-1912.—1900: Margate dist. (Barrett, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1900: 101; idem, *Entomologist*, 34: 23). 1903: Chittenden (Ovenden, *Ent. Rec.*, 21: 33). 1912: Deal sandhills, two taken at sugar, August 27 (Tonge, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1912-13: 103; idem, *Ent. Rec.*, 24: 273).

1932-1939.—1932: Dungeness, August 20, one at dusk by C. G. M. de Worms, ♀ at sugar by A. M. Morley (Morley, *Entomologist*, 67: 38; de Worms, *Entomologist*, 65: 23). 1933: Dungeness, one, August 14, three, August 16, and six more by other people (de Worms, *Entomologist*, 66: 259)

(about 12, but not taken by Morley (Morley, *Entomologist*, **67**: 238), may refer); Edenbridge (div. 11), at sugar (F. D. Greenwood). 1934: Dungeness, August 3 (5), 11 (1), September 3 (13), 8 (3) (A. M. Morley); August 5 (23), by Morley, Lowe, and two others (Lowe, *Entomologist*, **67**: 237); August 14, September 10 (A. J. L. Bowes); September 17 (2), 18 (1) (Beckwith Whitehouse MS.); August 31 (1) (A. G. Peyton); Ham Street, eight, August 4 (de Worms, *Entomologist*, **63**: 103); Sandwich, August, 24 (1); Deal, August 2 (1); Dover, August 31 (several) (Lowe, *loc. cit.*); Sandhurst, August 12, 13 (Bull, *Entomologist*, **67**: 279). 1935: Dungeness, August 16, ♂, "at Pits on Loosestrife" (A. M. Morley, *in litt.*); a few, September 7 (de Worms, *Entomologist*, **69**: 157); September 21 (1) (Beckwith Whitehouse MS.); Ham Street, September 17 (♀) (Beckwith Whitehouse MS.). 1936: Dungeness, August 20 (1), by J. O. T. Howard (A. J. L. Bowes); September 5 (de Worms, *Entomologist*, **70**: 89); Sandwich, August 20 (4), 30 (2), September 5 (2, by A. G. Peyton), 6 (5), 12 (1), 14 (1) (A. J. L. Bowes). 1937: Dungeness, September 1 (1) (A. H. Lanfear); September 27 (1) by B. Embry (A. M. Morley). 1938: Dungeness, August 9 (1), 21 (3) (Bowes, *Ent. Rec.*, **51**: 107); August 30 (5) (A. M. Morley); August 12 (1) (C.-H.); a total of some 50-100 noted here this year (A. M. Morley); Sandwich, September 14 (A. J. L. Bowes); September 25 (1) (C.-H.); [(Dover, larva, April 9, by J. O. T. Howard (A. J. L. Bowes). This is the basis for the record by Haggett (*in Proc. S. Lond. ent. nat. Hist. Soc.*, 1962: 196). However, Howard told me that he reared the moth and that it was not *albipuncta* but *L. lithargyria* (C.-H.)] 1939: Sandwich, one, June (A. J. L. Bowes).

1945-63.—1945: Dungeness, August, 12 taken (Richardson, *Entomologist*, **79**: 20); August 11 (1) (A. M. Morley); August 5 (1), September 1 (1) (de Worms, *Entomologist*, **79**: 76-77); Herne Bay, June 22 (Dannreuther, *Entomologist*, **79**: 107); Reculver, August 6 (1); Sandwich, August 11 (1) (C.-H.). 1946: Deal, one at light, by C. M. Gummer, September 1 (Dannreuther, *Entomologist*, **80**: 140). 1947: Dungeness, August 11 (1) (A. M. Morley). 1948: Herne Bay, August 24 (1, at light) (D. G. Marsh, *Diary*); Ham Street, September 9 (1) (Howarth, *Ent. Gaz.*, **1**: 41); Brook; Dover; Westwell; eleven, August 14-September 7 (Dannreuther, *Entomologist*, **82**: 107) (including five at Westwell, September 7 (E. Scott)). c. 1948: Broadstairs, four (J. W. C. Hunt coll.). 1949: Broad Oak (div. 3), ♂, rather worn, at electric light, May 27 (C.-H.); Herne Bay, June 10 (2), 12 (one, worn), August 27 (1), September 4 (D. G. Marsh, *Diary*); Sandhurst, August, one, September 22, one (G. V. Bull); Ham Street, August 12 (1) (E. C. Pelham-Clinton); September 3 (♀), 9 (♀) (C.-H.); four at sugar, September 3 and 5 (R. F. Bretherton); Lydd-on-Sea, September 7 (1) (R. W. Parfitt); West Wood, near Lyminge (div. 8), ♂ and ♀, at sugar, September 2 (A. M. Morley). 1950: Herne Bay, June 2 (1), 12 (1), August 3 (1), 8 (2), 18 (2); Sandwich, at sugar, August 11 (about 30) D. G. Marsh & G. H. Youden); Dungeness, August 13 (2) (D. G. Marsh, *Diary*); Sandhurst August (2) (G. V. Bull); Deal, August (fairly common) (C. M. Gummer, *in litt.*, 20.viii.50); Waltham, August 25 (1), 27 (1) (J. W. C. Hunt); Cliftonville, one (W. D. Bowden); Sandwich, June 16 (3, at sugar), July 22 (1, at sugar), August 5 (1, at marram), August 26 (20, at sugar) (C.-H.); Kent (79) (Dannreuther, *Entomologist*, **84**: 102). 1951: Ham Street, July 9 (1) (W. D. Bowden); September 7 (1, at m.v.l.) (C.-H.); Broad Oak, September 21 (1, at electric light) (C.-H.); Folkestone Town, August 29 (1), September 5 (1), 10 (2) (Morley, *Ent. Rec.*, **64**: 71); Pinden (div. 6), one (E. J. Hare); Herne Bay, August 3 (D. G. Marsh, *Diary*); Dover (Dannreuther, *Entomologist*,

85: 155). 1952: Herne Bay, June 8 ( $\delta$ ) (D. G. Marsh, *Diary*); Folkestone Town, August 10 (1) (A. M. Morley). 1953: Herne Bay, May 17 ( $\delta$ ), June 3 (1) (D. G. Marsh, *Diary*); Ham Street, August 26 (A. H. Harbottle); August 30 (1) (de Worms, *Ent. Rec.*, 66: 48); Folkestone Town, six at m.v.l., August 12-September 15 (A. M. Morley); Hoads Wood (div. 11), September 15 (P. Cue); Westwell, July 3 (2) (E. Scott, *Diary*); Folkestone, July 2; Dover, August-September (6) (French, *Entomologist*, 87: 63). 1954: Brook, August 25 (C. A. W. Duffield, *fide* E. Scott); Ashford Town, October 18 (P. Cue); Cliftonville, September 1 (1) (W. D. Bowden); Ham Street, two (G. Law, *fide* P. B. Wacher); September 24 (E. J. Hare); Sandwich, September 19 (1), 26 (1) (B. K. West). Romney Marsh, three (Kettlewell, *Entomologist*, 88: 45); Wye, October 13 (1) (W. L. Rudland); Folkestone Town, October 2 (1), September 7-October 14 (4, by R. W. Fawthrop) (A. M. Morley). 1955: Folkestone Town, September 5 (1), 20 (1), both at m.v.l., by R. W. Fawthrop (A. M. Morley). 1956: St. Peters, August 10 (1) (W. D. Bowden); Sandwich, June 19 (1) (P. B. Wacher); Wye, September 10 (1) (W. L. Rudland); Ham Street, September 9 (2) (Huggins, *Entomologist*, 90: 50); September 14 (1) (de Worms, *Entomologist*, 90: 181); Dungeness, July 28 (1) (W. L. Rudland); September 10 (Huggins, *loc. cit.*); Folkestone, September 10, 15, 25 (French, *Entomologist*, 90: 235); Folkestone Warren, September 24 ( $\delta$ ) (W. L. Rudland). 1957: Ham Street Village, August 31 (de Worms, *Entomologist*, 91: 152). 1958: Folkestone Town, August 26 (1) (A. M. Morley); Dungeness (de Worms, *Entomologist*, 92: 73); Folkestone, July 26 (1), August 29 (2) (French, *Entomologist*, 92: 173). 1959: Folkestone, July 26, August 22, October 12; Dover, October 11 (4) (French, *Entomologist*, 95: 175); Ham Street, October 6 (3) (R. G. Chatelain). 1960: Dover, June 10 (2); Folkestone, late August; Ham Street, September 7; Brook, September 14 (French, *Entomologist*, 95: 210). 1961: Ham Street Village, September 3 and 7 (de Worms, *Entomologist*, 94: 163; idem, *Ent. Rec.*, 72: 246); Orlestone Woods, September 1 (1) (B. F. Skinner); Tenterden, August 25, 27; Folkestone, August 30; Brook, September 4, 5, 9; Dover, September 17 (French, *Entomologist*, 96: 37). 1962: Dungeness, October 1 (1, at m.v.l.) (R. E. Scott); October 1-4 (22) (Wightman, *Ent. Rec.*, 74: 237); Ashford Town, autumn (1) (P. Cue); Folkestone, August 5 (1), October 3 (1), 21 (1); Dover, September 4-October 5 (12); Ickham, October 1 (2), 4 (2) (French, *Entomologist*, 97: 125-126). 1963: Dover, about six in m.v. trap, September 7-30 (G. H. Youden).

VARIATION.—The following named abs. are in R.C.K.:—*grisea* Tutt, Sandwich, one, 1935; *ochrea* Warren, Dungeness, four; *suffusa* Tutt, Dungeness, several; *italo-gallica* Mill., Dungeness, two; *flecki* Caradja, Dungeness, two; *rufa* Tutt, Dungeness, several; also, typical *albipuncta* Schiff., Dungeness, several.

FIRST RECORD, 1868: Folkestone, one at sugar, August 15, 1868 (Briggs, *Proc. ent. Soc., Lond.*, 1868: xxxix). This is also the first British record.

#### **L. lythargyria** Esp.: Clay.

Native. Grassy places in woods, marshes, waste land, etc.; on *Festuca rubra*. In all divisions. "Generally common" (V.C.H. (1908)).

A larva taken by me, Trottesscliffe (div. 7), April 20, 1962, feeding on *F. rubra* L. (det. C. A. Stace), from which D. R. M. Long reared an imago (C.-H.). A. R. Kidner (*Diary*) records finding young larvae in numbers

at night at Sidcup, in April 1924, and again in 1936, but does not specify foodplant.

The moth is fairly plentiful at flowers of rush, sugar, and especially at light. For example, it has been recorded at m.v.l. as follows:—Dungeness, July 1-August 13, 1962 (62), with maximum (6) on July 24 (R. E. Scott); Willesborough, July 11-August 9, 1954 (51), June 27-August 8, 1955 (85), July 10-August 9, 1956 (80); Wye, July 2-August 8, 1953 (32), July 12-August 20, 1954 (27), July 4-August 11, 1955 (58), July 7-August 13, 1956 (63) (W. L. Rudland); Bromley, 1962 (30), last noted September 4; 1963 (33), first noted June 28 (D. R. M. Long).

VARIATION.—Tutt (*Br. Noct.*, 1: 32) records the following aberrations: *pallida* Tutt, Farnborough; *extralinea* Tutt, Strood; *fulvescens* Tutt, Chatenden.

FIRST RECORD, 1829: “*Mythimna grisea* . . . occasionally at Darenth Wood” (Stephens, *Houst.*, 2: 150).

#### **L. conigera** Schiff.: Brown-line Bright-eye.

Native. Downs, commons, lanes, grassy places; on *Festuca rubra*. In all divisions. “Generally common” (V.C.H. (1908)); but markedly less plentiful than *L. lythargyria*.

An imago was reared from a larva found by me at Trottesscliffe (div. 7.), April 20, 1962, feeding on *F. rubra* L., det. C. A. Stace—the only record I have of the feral larva (C.-H.).

VARIATION.—In R.C.K. is a striking ♂, ab. *coxi* C.-H., pale and markingless, taken at Abbey Wood (div. 1) in 1949; also, ab. *intermedia* Tutt, one, Ashford, 1935.

FIRST RECORD, 1829: “Not uncommon in Darenth-wood” (Stephens, *Houst.*, 2: 151).

#### [(**L. commoides** Guen.]

Very doubtfully genuine.

15. Four specimens taken, “in a spot bordering on Romney Marsh”,\* during the first week of August (1873) (Parry, *Entomologist*, 6: 522-523).]

#### **Mythimna turca** L.: Double Line.

Immigrant? Woods.

6a. Knight's Place near Rochester, 1890 (Pye, *Rochester Nat.*, 1896 (51) 353.

8. Folkestone\* (Newman, *Br. Moths*, 260); one, taken by J. W. Walton, c. 1907, flying at dusk at the foot of the downs, is in A. M. Morley coll. (A. M. Morley). Brook, one worn specimen, taken by C. A. W. Duffield, in light trap, June 18, 1961 (E. Scott, *Diary*).

FIRST RECORD, 1869: Folkestone (Newman, *Illustrated Natural History of British Moths*, 260).

#### NONAGRIINAE

#### **Stilbia anomala** Haw.: Anomalous.

Perhaps resident, but doubtless now long extinct. Heaths?

Note:—It is regrettable that the species has been so badly recorded, with failure in every case to give sufficient particulars.

1. Allchin (*Ent. week. Int.*, 7: 205) records that he took one at sugar, in August 1859, “in Kent” [West Wickham?], which record I have tenta-

tively placed in this division (C.-H.).\*

8. Near Folkestone\*, one (in 1875) (Haggar, *Entomologist*, **8**: 300). Folkestone\* (Ullyett (1880)), may refer to the preceding occurrence.

[11. Wateringbury.—W. A. Cope told me he was fairly certain E. Goodwin took an *anomala* at Wateringbury; there is however no such specimen in the Goodwin coll. (C.-H.).]

13. Pembury (Stainton, *Man.*, **2**: 314).

FIRST RECORD, 1837: "Mr. Standish has met with it I think in Kent" (Curtis, *Br. Ent.*, 631). A more positive record dates from 1857: Stainton, *loc. cit.*

**Rhizedra lutosa** Hüb. (**crassicornis** Haw.): Large Wainscot.

Resident, perhaps native. Reed beds<sup>1</sup>, marshes, ditches, river-banks; [on *Phragmites communis*]. Locally plentiful in 2, 4, 15.

The records are often of single specimens—mostly at light, occasionally ivy blossom—away from suitable terrain, many of which must have flown far from their place of birth. The moth is classed as a migrant by Williams *et al.* (1942).

1. Lee, October 28, 1863, October 20, 1885, October 26, 1886 (Fenn, *Diary*). Charlton, September 13, 1865 (Fenn, *Diary*) (Jones, *Ent. mon. Mag.*, **2**: 139). Bromley, at sugar (Watchurst, *Entomologist*, **17**: 279); one, October 14, 1962 (D. R. M. Long). Sydenham, one, 1901 (Hammond, in Buckle and Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1901: 63). Bexley; Eltham (*Wool. Surv.* (1909)). Dartford (B. K. West). Petts Wood, two, 1947, three, 1949, one, 1950 (E. Evans). Abbey Wood, 1952 (A. J. Showler). Orpington, one, 1957 (R. G. Chatelain). Blackheath (de Worms, *Lond. Nat.*, 1955: 36). Lee, one, September 28, 1959 (C. G. Bruce).

3. Herne Bay, several at light (A. J. L. Bowes). Whitstable (P. F. Harris). Broad Oak, three at light, October 17, 1953 (C.-H.).

5. Westerham (R. C. Edwards).

6. Greenhithe\* (V.C.H. (1908)). Gravesend, odd ones, 1910, 1912-14, 1922 (F. T. Grant). Pinden, a few, 1952 (E. J. Hare). Otford, two, 1955-56 (W. B. L. Manley).

7. Westwell, one, September 18, 1953, at light (E. Scott, *Diary*).

8. Folkestone\* (Ullyett (1880)). Dover, 1936, 1939 (E. & Y. (1949)).

9. Margate, October 5, 1920 (H. G. Gomm, *Diary*); (H. C. Huggins). St. Peters, October 9, 1955 (W. D. Bowden).

11. Wateringbury (V.C.H. (1908)). Hoads Wood (E. Scott). Aylesford (G. A. N. Davis). Sevenoaks Weald, two at m.v.l., October 1, 14, 1959 (E. A. Sadler).

12. Canterbury, 1895 (S. Wacher MS.); one at light, c. 1947 (J. A. Parry). Hothfield (Scott (1936)). Brook\*, 1947; Ashford (Scott (1950)). Charlham (P. B. Wacher). Willesborough, four, 1953, two, 1955, five, 1956; Wye, twelve, 1953, one, 1954, fourteen, 1955, six, 1956 (W. L. Rudland). Willesborough, several at light, 1959, 1961; West Ashford, one, 1960, one, 1961 (M. Singleton). Ham Street, September 21, 1957 (R. F. Bretherton).

13. Goudhurst, several at light (W. V. D. Bolt, *personal communication*, 1961).

14. Iden Green, 1951 (H. Boxall).

16. Folkestone (Morley, *Ent. Rec.*, **64**: 171).

VARIATION.—The following abs. are in R.C.K.: *crassicornis* Haw., Dymchurch, one, bred 1932; *pilicornis* Haw., Dymchurch, several; *rufescens*

Tutt, Dymchurch, Herne Bay.

FIRST RECORD, 1853: Near Deal (Harding, Soc. Br. Ent., in *Zoologist*, 4141).

<sup>1</sup>Haggett (*Entomologist*, 90: 184) observes that the "ideal habitat is in a large reed basin where drainage has caused a permanent lowering of the water-table and a weakening of the reed vigour, but there is sufficient moisture and periodic flooding to prevent colonization by other plants". I have seen the moth in abundance at Ebbsfleet (div. 4), and Dymchurch (div. 15), where these conditions obtained exactly (C.-H.).

**Arenostola pygmina** Haw. (**fulva** Hübn.): Small Wainscot.

Native. Marshy places, damp woods, fens; foodplant unknown. "Abundant in some places" (V.C.H. (1908)).

Note:—The species is evidently locally plentiful, but the majority of observers including myself have never had the fortune to encounter it in good numbers (C.-H.). C. & J. Fenn (*Diary*), who took it so abundantly at Lee Swamp, wrote: "By looking on the *Carices* with a lantern we found *N. fulva* in tolerable plenty—this is certainly the way to take it".

1. Lee Swamp, took 49, September 9-18, 1862; took 103, August 20-September 16, 1863; August 31, 1864; one, September 15, 1885; Lee, one at light, September 17, 1865; one at light, September 30, 1866 (Fen, *Lepidoptera Data MS.*). Shooters Hill Wood (Purnell, *Week. Ent.*, 3: 268). Bromley (Watchurst, *Entomologist*, 17: 279). Eltham; Holwood; Paul's Cray (*Wool. Surv.* (1909)). Paul's Cray Common, annually to September 1920 (S. F. P. Blyth). Sidcup, one, at light, September 5, 1913 (A. R. Kidner). West Wickham, common, 1929 (S. Wakely). Lee, 1954 (C. G. Bruce).

2. Near Sheerness, rare among reeds (Walker, *Ent. mon. Mag.*, 8: 185). Greenhithe\* (V.C.H. (1908)). Rochester\* (Ovenden, *Ent. Rec.*, 18: 19). Cliffe Marshes, one, September 3, 1960 (R. G. Chatelain).

4. Deal, one, August 22, 1890; Ham ponds, one, August 17, 1892 (Fenn, *Diary*). Minster Marshes, one, August 9, 1927 (H. G. Gomm, *Diary*). Westbere, two, August 28, 1938, one, August 3, 1946 (C.-H.). Sandwich (E. & Y. (1949)). Ickham, several, 1954-59 (D. G. Marsh). Worth, 1961 (T. W. Harman).

6. Springhead (H. C. Huggins). Otford, one, 1956 (W. B. L. Manley).

7. Detling, September 23, 1960 (R. G. Chatelain).

8. Folkestone Downs (A. M. Morley, *in litt* 22.viii.1958).

11. Shipborne (P. A. & D. J. A. Buxton coll.). Aylesford (G. A. N. Davis).

12. Shadoxhurst (Scott (1936)). Brook\*, October, 1947 (Scott (1950)). Ham Street, in small numbers at light, 1949-54 (C.-H.); (de Worms, *Entomologist*, 88: 61); September 3-5, 1949, September 29, 1956, September 21, 1957 (R. F. Bretherton). Ashford, September 10, 1955 (P. Cue). Willesborough, two, September 24-October 2, 1953, four, September 12-25, 1956; Wye, one, September 10, 1953, two, September 6-26, 1954, two, September 5-16, 1955, two, September 25, 1956 (W. L. Rudland). Willesborough, one, 1957, two, 1959 (M. Singleton).

13. Tunbridge Wells, fairly common (Knipe (1916)). Goudhurst, two at light, 1959 (W. V. D. Bolt).

15. Dungeness, August 7, 19, 1935 (A. J. L. Bowes); one August 18, 1958 (E. C. Pelham-Clinton); one, taken by T. W. Harman, August 30, 1962 (R. E.

Scott). Military Canal\* (G. V. Bull). Dymchurch (A. M. Morley, *in litt.* 22.viii.1958). Appledore, 1962 (de Worms, *Entomologist*, **96**: 59).

16. Folkestone\* (Ulliyett (1880)). Hythe\* (E. J. Hare). Folkestone Town, one at m.v.l., September 19, 1957 (A. M. Morley). Sandgate, one, 1960, one, 1961 (N. Reay-Jones).

VARIATION.—Tutt (*Br. Noct.*, **1**: 45) records specimens from Deal of the whitish form, ab. *concolor* Tutt. Ab. *concolor* is also represented by a single specimen in R.C.K., taken Dungeness, 1935.

FIRST RECORD, 1862: Lee Swamp (Fenn, *Diary*, 9.ix.1862).

**[A. extrema** Hübn. (***concolor*** Guen.): Concolorous.

Doubtfully Kentish<sup>1</sup>.

8. Folkestone (1871, Morris, *Br. Moths*, **2**: 89). No particulars are given, and the record is not confirmed from any other source; it is possible, however, that Morris confused it with *A. morrisii* Dale (q.v.), which was first recorded from Folkestone as *extrema* in error.]

<sup>1</sup>The species has been recorded from Eastbourne, Sussex, and was exhibited (Ellison, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1957 : 12).

**A. fluxa** Hübn. (***hellmanni*** Ev.): Mere Wainscot.

Perhaps resident. Woods, marshy places.

Note: *Calamagrostis epigeios* is a rare plant in Kent, but of the few recorded stations, two are located between Folkestone and Ham Street (cf Hanbury and Marshall, *Flora of Kent*, 394), and a number of plants were recently noted at Dungeness by S. Wakely and the late Dr. E. Scott.

12. Orlestone Woods, one taken by R. F. Bretherton and J. L. Messenger, at m.v., July 28, 1956 (Scott, *Trans. Folkestone nat. Hist. Soc.*, 1956 : 6).

15. Dungeness, two, including one of the red form, July 31, 1963, taken by D. W. H. ffennell (D. W. H. ffennell, *in litt.*).

16. Folkestone\* (Ulliyett (1880)).

FIRST RECORD, 1880: Folkestone (Ulliyett, *Rambles of a Naturalist Round Folkestone*, 142).

**A. morrisii** Dale ssp. **bondii** Knaggs: Bond's Wainscot.

Native. Greensand cliffs; on *Festuca arundinacea*, *Arrhenatherum elatius*.

[(2. "The moth . . . has been taken in Woolwich marshes" (Newman, *Br. Moths*, 276). A most unlikely occurrence, unless introduced (C.-H.).)]

16. Folkestone.—The main locality is a rough extent of cliff between the Leas and the beach, the most accessible portion and that best known nowadays being adjacent to the Road of Remembrance. About 1928, A. M. Morley found the moth flying on the cliffs between the Leas and Sandgate, at a spot a mile or so to the west of the Road of Remembrance, but the place was so steep as to be virtually unworkable. Knaggs (*Entomologist*, **30**: 75) records that he was informed that a "straggling specimen" was once taken in the Warren on the gault.

First found by Dr. H. Guard Knaggs in 1859, and exhibited by him as "*Nonagria concolor*" in September of that year at the Entomological Society of London (see *First Record*). Within a few years of its discovery here, the species was collected in enormous numbers, and Fenn (*Diary*)

writing in 1862 testified to the fact that up to that time "about a thousand specimens have been captured". It was still "very common" in 1864, according to Meek (*Ent. mon. Mag.*, 1: 123); but in 1867 the same observer noted that it had become "very scarce". Webb (*S. East Nat.*, 1903: 54) records it as having become far less common around the turn of the century, though it appears that this was only a temporary decline.

In 1935-36, according to A. J. L. Bowes (*Diary*), a landslip over its breeding ground considerably reduced the numbers in 1936. Despite this however, the moth was noted by me flying in good numbers between 9.30 and 10 p.m., on June 29, 1939, although at this date many were already getting worn; on June 24, 1952, the insect was abundant and fresh; but in 1956, a year considered a poor one generally, only twelve were noted, on June 29 (C.-H.).

Nicholls (*Entomologist*, 11: 252) records that he bred the species in 1863 from larvae which he found in the roots of *A. avenaceum* (*elatius*), growing along the Sandgate Road. About 1955, G. M. Haggett (*in litt.*) found larvae full grown, May 13-27, on *F. arundinacea*, by the Road of Remembrance, and reared the moths; and he states that it was on no other plant.

**VARIATION.**—The form occurring in Kent is referable to ssp. *bondii* Knaggs. G. M. Haggett who has compared a good many fresh examples from Folkestone, Kent, and Charmouth, Dorset (the original locality of typical *morrisii* Dale), states (*in litt.*) that Charmouth examples have "pallid white ground colour compared with cream-white of Folkestone, and Charmouth moths are well dusted with dark grey atoms on the central fascia and especially at the outer margin so that the white nervures stand out more sharply than those from Folkestone".

**FIRST RECORD**, 1859: Folkestone (Knaggs, *Proc. ent. Soc. Lond.*, 1859: lxxvii).

### ***Arenostola phragmitidis* Hübn.: Fen Wainscot.**

Native. Marshes, fens, ditches, riversides [on *Phragmites communis*].

1. Bromley Marshes (Courtney, *Entomologist*, 1: 227). Abbey Wood\* (C. Fenn, in *Wool. Surv.* (1909)). Sidcup, one at light, August 13, 1909 (A. R. Kidner).

2. Greenwich Marshes (Stainton, *Man.*); abundant, July 30-August 1, 1861; fifteen, July 16, 1886 (Fenn, *Diary*); on the banks of the Thames below Greenwich (Newman, *Br. Moths*, 273). Greenwich to Erith (J. W. Tutt, in *Wool. Surv.* (1909)). Gravesend (Button, *Entomologist*, 4: 129); (Miller and Jones, *Ent. mon. Mag.*, 6: 114); 1926-27 (F. T. Grant). Greenhithe; Cliffe (V.C.H. (1903)). Sheppetey (Hodgson, *Ent. mon. Mag.*, 10: 180). Near Strood (Ovenden, *Ent. Rec.*, 21: 32). Higham Marshes (F. T. Grant). Iwade (H. C. Huggins). Aylesford, one (G. A. N. Davis). Dartford, common (B. K. West).

4. Deal (Harding, *Ent. week. Int.*, 1: 163, 8: 155; Fenn, *Ent. week. Int.*, 9: 60; Browne, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1906-07: 86). Sandwich to Deal (Shepherd, *Entomologist*, 17: 136). Cliffsend, numerous, 1907, 1912 (J. W. C. Hunt). Reculver, 1934-36 (A. J. L. Bowes). Sandwich (de Worms, *Entomologist*, 67: 103); several on marram grass, August 5, 1946 (C.-H.); one, August 5, 1957 (R. F. Bretherton). Westbere, twenty, flying and on rushes, August 3, 1946; Ham Fen, four, July 31, 1955 (C.-H.). Minster Marshes, July 24, 1951 (W. D. Bowden). Worth, one on Hemp

Agrimony flower, September 1, 1962 (T. W. Harman). Ickham, 1954-59, several most years (D. G. Marsh).

6. Gravesend, August 9, 1910 (F. T. Grant). Springhead (H. C. Huggins).

9. Margate, August 4, 1951; Cliftonville, one, July 30, 1955 (W. D. Bowden).

11. Aylesford, two (G. A. N. Davis).

12. Willesborough, one, August 4, 1954, one, July 29, 1955 (W. L. Rudland).

15. Dymchurch (Browne, *Entomologist*, 35: 269); (G. V. Bull); 1952 (Wakely, *Ent. Rec.*, 65: 44). Appledore, several, 1953, twelve, 1957 (P. Cue). Dungeness, one, taken by T. W. Harman, August 30, 1962 (R. E. Scott).

16. Folkestone\* (Ullyett (1880)). Near Hythe\*, 1929 (Morley (1931)). Folkestone Town (Morley, *Ent. Rec.*, 64: 171).

VARIATION.—According to Tutt (*Br. Noct.*, 1: 42-43) ab. *pallida* Tutt is the commonest form of the species; of ab. *rufescens* Tutt, he writes (*loc. cit.*):—"I have a fine series . . . captured on the banks of the Thames in North Kent".

FIRST RECORD, 1841: Bromley Marshes (Courtney, *Entomologist*, 1: 227).

### **Oria musculosa** Hübn.: Brighton Wainscot.

Resident?

Note:—It is possible the species has been much overlooked owing to its habit of frequenting corn-fields.

8. Wye\*.—A rather worn *musculosa* in J. Platt Barrett coll., labelled "Wye 8/8/81 J. Platt Barrett"† (C.-H.).

[The following records cannot be accepted here without reserve:—(1) Under *Simyra nervosa* Steph. (which Bainbridge Fletcher attributes to *musculosa*, see *Entomologist*, 75: 141), Stephens records one taken by Pittard near Darenth Wood; (2) a specimen of *musculosa* in Rev. C. A. Sladen's coll. sale, labelled "Wye Downs, 1885, Morley collection" (*Ent. Rec.*, 8: 15).]

FIRST RECORD, 1881: Wye (J. P. Barrett).

### **Nonagria algae** Esp. (**cannae** Ochs.): Reed Wainscot.

Resident. Ponds; [on *Typha latifolia*].

11. Frittenden, one taken at light, c. 1949, by Rev. O. S. S. Edwards (R. C. Edwards).

15. Dungeness, Open Pits, 1952, "I had cut some mined stems of *Scirpus* and *Typha*, expecting to breed *N. sparganii* (Esp.), and was very surprised to find that a male *cannae* had emerged on 12th September, to be followed by a female on the 14th" (Jackson, *Entomologist*, 86: 2; *Proc. S. Lond. ent. nat. Hist. Soc.*, 1952-53: 36). Dungeness, one taken 1954 by E. J. Hare and in his coll.† (C.-H.).

FIRST RECORD, c. 1949: Frittenden (O. S. S. Edwards).

### **N. sparganii** Esp.: Webb's Wainscot.

Resident, probably native. Marshes, ponds, ditches; on *Iris pseudocorus*, *Typha latifolia*, *T. angustifolia*, *Sparganium ramosum*. Formerly chiefly maritime; now ranging well inland as a breeding species. The "Kent Wainscot" of Tutt (1896, *Br. Moths*, 164).

Note:— In wet seasons liable to suffer heavily from attacks by Moorhen, which can then more easily reach the larvae and pupae.

2. Iwade Marshes, 1922, approximately 1% larvae against *N. typhae* (H. C. Huggins). Queenborough, imagines plentiful in ditches, August 1936 (E. H. Wild). Higham, four pupae and a larva among 24 larvae and pupae of *N. typhae* in stems of *T. latifolia*, August 12, 1956 (C.-H.); eighteen pupae, August 11, 1962; pupae fairly plentiful, August 1963 (R. G. Chatelein). Burham Marsh, Aylesford, pupae, 1953 (G. A. N. Davis); common, 1955 (Davis, *Bull. K. Field Cl.*, 1: 6).

3. Whitstable, pupae rather common, imagines reared; in 1942 and other years (P. F. Harris). Broad Oak, several pupae, August 9, 1955, in *T. latifolia*, growing in village pond, imagines reared (C.-H.).

4. Dover district, at Haggerston Entomological Soc., November 15, 1883, Messrs. T. Cook & Son exhibited *sparganii* (*Entomologist*, 17: 24). Deal, September, 1884 (Meldola, *Ent. mon. Mag.*, 21: 135; idem, *Entomologist*, 17: 253); August 1884 (Tutt, *Entomologist*, 18: 71). Reculver, larvae and pupae on *Typha*, 1934, 1937-38, much more common in 1939 (A. J. L. Bowes). Sandwich, one, 1947 (J. A. Parry). Hersden, pupae abundant in *T. latifolia* and *I. pseudocorus*, August 5, 1955, August 6, 1956, almost every stem being tenanted, with sometimes two per stem, and in one stem of *T. latifolia* I counted three (C.-H.). Ickham, imagines fairly frequent at light, 1954-59, six in 1959 with four in m.v. trap one night (D. G. Marsh).

6. Cliffe Chalkpit, pupae common, c. 1950, all in *I. pseudocorus* (B. K. West).

6a. Chattenden, larvae and pupae in *T. latifolia*, June 26, 1960 (C.-H., *Proc. S. Lond. ent. nat. Hist. Soc.*, 1960: 85).

8. Folkestone Warren, one at light, taken by R. C. Crewdson, September 18, 1931 (A. M. Morley).

9. St. Peters, one, at light, August 28, 1933 (J. W. C. Hunt).

11. Hoads Wood, ♂, at m.v.l., August 11, 1955 (C.-H.); August 1960 (C. R. Haxby). Great Chart, five pupae in *Typha*, 1962, produced 4 ♂♂, 1 ♀ (M. Singleton).

12. Ashford, one, September 21, 1938 (de Worms, *Entomologist*, 71: 261); one, 1954, one, 1955, both at light (P. Cue). Chartham, pupae in *Typha*, August 5, 1955 (C.-H.). Brook, one, end August 1952 (C. A. W. Duffield, *fide* E. Scott). Wye, one, September 28, 1953, one, October 1, 1954 (W. L. Rudland). Ham Street, one, at light, September 4, 1954 (W. L. Rudland); one in m.v. trap, September 21, 1957 (R. F. Bretherton); August 1960 (C. R. Haxby).

14. Hawkhurst, one at light, August 12, 1952† (B. G. Chatfield).

15. Dungeness, one exhibited by S. Webb in January 1879, bred from a larva taken by him in 1878 (Carrington, *Entomologist*, 13: 50; see also *First Record*); larvae in *S. ramosum* and *I. pseudocorus*, 1879 (Carrington, *loc. cit.*); many were taken by Webb, Hanbury and Jeffery before 1900; "my first *sparganii* was taken at Dungeness in 1902" (H. M. Edelsten, *in litt.*); 1931 (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1931-32: 91); larvae and pupae at the ponds and in scattered clumps of *Typha* in wet spots over the shingle, August 1937 (A. J. L. Bowes); larvae and pupae in *Typha* on the road to the Hope and Anchor, July 24, 1949 (C.-H.); larvae in *T. angustifolia* (Edwards & Wakely, *Ent. Rec.*, 70: 93); one in m.v. trap, August 20, 1962 (R. E. Scott); ♀, at the new lighthouse, September 21, 1963

(C.-H.). Hythe (Tutt, *Br. Moths* (1896), 164), probably refers to Dungeness (C.-H.). Appledore, pupae and spun-up larvae, August 1, 1962 (S. Wakely).

16. Folkestone Town, ♂, at m.v., September 8, 1958 (A. M. Morley). Sandgate, one, 1961, at light (N. Reay-Jones).

VARIATION.—Very variable, particularly the ♂. It appears the type is of frequent occurrence in the ♀, but much less so in ♂ specimens. My series of 64 Kentish examples contains the following named abs.:—♀ *bipunctata* Tutt, one, Reculver; ♀ *obsoleta* Tutt, one, Reculver; and several of each of what appear to be the following colour abs.—♂ *rufescens* Tutt, Dungeness and Hersden; ♂ *rufa* Tutt, Broad Oak and Hersden; ♂ *nigrostriata* Wightman, Dungeness, Hersden, and Whitstable; ♂ *roseoradiata* Wightman, Hersden. I also have a ♂ from Hersden, which closely approaches *N. algae* in appearance; and another, a ♀ from Broad Oak, having the reniform broadly semi-colon shaped (C.-H.).

A. J. L. Bowes (*Diary*) notices certain features apparently distinguishing specimens from Dungeness from those from Reculver. He observes the main difference is that "Dungeness specimens have a darker transverse black band on forewings and a tendency to pinkness".

Turner (*Supplement to Tutt's Br. Noct.*, 1: 155) described ab. *clara*, North Kent, two; Richardson (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1953-54: 41) records ab. *bipunctata* Tutt from Kent; and Morley (*loc. cit.*) records ♂ and ♀ ab. *rufescens* from Kent.

The following abs. are in R.C.K.:—♂ *unimaculata* Dumont, Dungeness, one, Herne Bay, one, E. Kent, one; ♀ *clara* Turner, E. Kent, one; ♀ *bipunctata* Tutt, Herne Bay, one; ♂ *rosea* Wightman, S. Kent, two; ♀ *obsoleta* Tutt, Reculver, one; ♂ *roseoradiata* Wightman, Dungeness, one, Kent, one; *lutea* Wightman, East Kent, two; *rufescens* Tutt, numerous ♂♂ and ♀♀, Dungeness and Herne Bay; *rufa* Wightman, ♂♂, Dungeness and Herne Bay, and one ♀, East Kent; *nigrostriata* Wightman, numerous ♂♂ and ♀♀, Dungeness. Note:—The locality of these *sparganii* labelled "Herne Bay", is Reculver (C.-H.).

FIRST RECORD, 1879: At meeting of Royal Horticultural Society on January 14, 1879, "S. Webb showed a moth, *Nonagria sparganii*, the larva of which . . . in this country is found to prey on the stems of Irises . . . ". "The insect is a new introduction to this country" (*Proc. R. hort. Soc.*, 1879: ci). This is also the first British record. The provenance was subsequently given out as "south-east Kent", but hitherto there has been no authenticated record specifying the locality, which for many years was kept secret. It is therefore of interest to note that H. M. Edelsten wrote me that Webb first discovered *sparganii* as new to Britain at the Open Pits (or "Hoppen Pits" as they were known locally), Dungeness, and that he was informed of this by Webb himself (C.-H.).

#### ***N. typhae* Thunb. (*arundinis* F.): Bulrush Wainscot.**

Native. Marshes, dykes, ponds; on *Typha latifolia*. Plentiful in many localities in 2, 4, 15.

Obs.—At Minster (div. 4), August 26, 1919, H. G. Gomm (*Diary*) records finding four pupae of *typhae* in a single stem of *T. latifolia*. Tonge (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1913-14: 124) observes that at Deal in 1913, most of the larvae were parasitized.

1. Lee Swamp, A. H. Jones took a ♀, sitting on a stem of *T. latifolia*

drying its wings, September 12, 1862; eight, August 20-21, 1863 (Fenn, *Diary*). Lewisham, occurred commonly up to 1877, ground since built over (R. Adkin, in *Wool. Surv.* (1909)). Brockley, pupae common (West, *Ent. Rec.*, 18: 200). Beckenham, 1948 (de Worms, *Lond. Nat.*, 1955: 33). Lee, one, at light, October 30, 1955 (C. G. Bruce). Foots Cray, in gravel pits (R. G. Chatelain, *in litt.*, 25.xi.1958).

3. Whitstable (P. F. Harris). Broad Oak, pupae abundant in stems of *T. latifolia* in village pond, August 9, 1955 (C.-H.). Eddington, at light, September 11, 14, 20, 28, 1949 (D. G. Marsh, *Diary*).

5. Westerham (R. C. Edwards).

6. Pinden, one, August 1953 (de Worms, *loc. cit.*). Otford, four at m.v.l., 1955 (W. B. L. Manley).

6a. Chattenden, larvae and pupae in stems of *T. latifolia*, June 26, 1960 (C.-H., *Proc. S. Lond. ent. nat. Hist. Soc.*, 1960: 85).

7. Boxley (A. H. Harbottle).

8. Folkestone\* (Ulliyett (1880)). Folkestone Warren, August 26, 1932 (J. H. B. Lowe).

10. Shoreham (H. E. Hammond).

11. Edenbridge, pupae plentiful, 1930 (F. D. Greenwood). Tonbridge (H. E. Hammond). Hoads Wood (P. Cue). Frittenden, pupae, 1955 (C.-H.). Headcorn, "bulrush pond in field near main road infested, several pupae shelled out, August 17, 1960" (C. R. Haxby, *in litt.*).

12. Wye; Kennington (Scott (1936)). Vauxhall Lakes, Canterbury, pupae, 1938; Charlham, pupae, 1955 (C.-H.). Wye, two, August 15-September 15, 1953, one, August 31, 1954, one, September 8, 1955; Willesborough, one, August 21, 1955; Ham Street, September 4, 1954; all at m.v.l. (W. L. Rudland). Ashford Town (P. Cue). Ham Street, in m.v.t., September 21, 1957 (R. F. Bretherton); one at light, August 31, 1957, in the village; one at light, September 22, 1962 (de Worms, *Entomologist*, 91: 152, 96: 58).

13. Tunbridge Wells (M. M. Phipps, in Knipe (1916)). Goudhurst, one at light, 1954 (W. V. D. Bolt).

14. Sandhurst (G. V. Bull). Tenterden, 1960 (C. G. Orpin).

16. Folkestone, one, 1951 (Morley, *Ent. Rec.*, 64: 171). Sandgate, 1961 (N. Reay-Jones).

VARIATION.—Ab. *fraterna* Tr. has the anterior wings suffused with deep reddish-brown and black scales, and in some specimens to such an extent that the insect is almost black in colour. Tutt (*Br. Noct.*, 1: 54) states that in the neighbourhood of Higham, of many bred 1881-83, not more than one in thirty was *fraterna*. At Higham in 1956, two that I bred were *fraterna*, the remaining eighteen being more or less typical (C.-H.). A. J. L. Bowes (*Diary*) records two ♀♀ *fraterna* bred Reculver, 1934-35; and H. C. Huggins states that on Sheppey, he has found that about one in five are this ab.

FIRST RECORD, 1862: Lee, ♀, by A. H. Jones (Fenn, *Diary*).

#### **N. geminipuncta** Haw.: Twin-spot Wainscot.

Native. Marshes, ditches, dykes, riverbanks, swamps; on *Phragmites communis*. Mainly coastal, but like *N. sparganii*, appears to have extended its range inland within recent years.

2. Cliffe, larvae very common, July 4, 1874, bred August 4, 1874 (Fenn, *Diary*). Higham, two, July 29, 1926 (F. T. Grant). Greenhithe (Farn MS.), Rochester district, 1907 (Ovenden, *Ent. Rec.*, 19: 230). Graves-

end (V.C.H. (1908)); (L. T. Ford). Sittingbourne (H. C. Huggins). Denton Marshes, several bred, 1926 (F. T. Grant). Faversham, pupae common (Robertson, *Entomologist*, 52: 59); larva, June 27, 1954 (Marsh & Youden, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 85). Whitstable district, "larvae common in any reed bed" (P. F. Harris, *in litt.*, xii. 1950). Burham Marsh, Aylesford, three, 1953 (G. A. N. Davis); 1955 (Davis, *Bull. K. Fld. Cl.*, 1: 6).

4. Minster, one bred, 1905, in J. P. Barrett coll. (C.-H.). Deal (V.C.H. (1908)). [Reculver] "I once found five pupae between two nodes of one reed-stem" (Edelsten, *Entomologist*, 42: 323). Reculver, pupae usually abundant; 1936-37 were bumper years; very few, 1938-39; imago seen only once or twice in many evenings (A. J. L. Bowes); pupae abundant in reed-stems in a dyke, August 1-2, 1955 (C.-H.). Sandwich, ten pupae, August 7, 1955; Westbere, pupae fairly plentiful, August 4, 1955 (C.-H.). [(Westbere (C.-H., *Ent. Rec.*, 57: 10), refers to *N. dissoluta* Treits. (q.v.)).] Ickham, 1954-59, fairly numerous, with several at light most years (D. G. Marsh). Worth, August 3, 1962 (T. W. Harman).

6. Springhead (H. C. Huggins). Otford, one at m.v.l., August 22, 1955 (W. B. L. Manley).

12. Ham Street, one, 1952 (E. J. Hare). Willesborough, two, August 21, 1955; Wye, two, August 10-12, 1953 (W. L. Rudland). Chatham, several pupae, August 5, 1955 (C.-H.). West Ashford, two taken by D. Youngs, 1961; one at light by M. Enfield, October 2, 1962 (M. Singleton).

15. Shirley Moor near Woodchurch (Scott (1936)). Near Dymchurch, August 4, 1933 (de Worms, *Entomologist*, 67: 103). Dungeness, two, August 22, 1951 (E. H. Wild); one, 1952 (E. J. Hare); Appledore, one, August 11, 1956 (P. Cue). Lydd (Coxey, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1961: 29).

16. Folkestone\* (Ullyett (1880)). Folkestone Town, ♀, August 22, 1955 (A. M. Morley).

VARIATION.—Of some 100 pupae taken at Reculver in 1955, 40 were parasitized, and 56 produced moths of what I judge to be the following abs.:—*rufa* Tutt, fifteen; *rufa-unipuncta* Tutt, eighteen; *rufa-obsoleta* Tutt, ten; *nigropunctata* Kroul., five; *fusca-unipuncta* Tutt, one; *unipuncta* Tutt, two; *obsoleta* Tutt, two; *nigricans* Stgr., one; also, *forma typica*, two (C.-H.). Davis (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1955: 23) exhibited ab. *nigricans* Stgr., from Aylesford.

FIRST RECORD, 1880: Folkestone (Ullyett, *Rambles of a Naturalist Round Folkestone*, 142).

#### ***N. dissoluta* Treits.: Brown-veined Wainscot.**

Resident. Marshes, fens, ditches, ponds; on *Phragmites communis*.

Note: Since 1950 the species has appeared in many new localities in Kent, and with greater frequency than for many years<sup>1</sup>.

1. Lee, one, at m.v.l., August 2, 1963 (C. G. Bruce).
2. Cliffe, common, 1906-13 (H. C. Huggins). Higham, riverbank by Shorne Mead Fort, plentiful 1926-27 (Grant, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1927-28: 108); Higham, one, August 30, 1963 (R. G. Chatelain). Aylesford, one, 1954 (G. A. N. Davis).
3. Broad Oak, three at electric light, August 5, 1951 (C.-H.). Herne Bay, one, 1951, two, 1952 (Marsh, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1952-53: 39).

4. East Kent [Reculver] (see *First Record*). Reculver, taken by A. U. Battley, later by H. M. Edelsten, who found larvae in 1912 (H. M. Edelsten personal communication; idem, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1912-13: 17; idem, *Proc. ent. Soc. Lond.*, 1912: ciii); several "E. Kent" and "Herne Bay" specimens in R.C.K. variously dated 1905, 1907, 1924, are probably from Reculver (C.-H.); one worn ♂, July 21, 1935 (A. J. L. Bowes); ♀ *formatypica*, ♂ ab. *arundineta* Schmidt, bred 1955, from pupae in *P. communis* (C.-H.). Ham Fen, eight at light, August 6, 1950 (C.-H.). Westbere, two, August 28, 1938 (C.-H.); three, worn, August 10, 1945 (C.-H., *Ent. Rec.*, 57: 10, where it is recorded by me in error as *N. geminipuncta*). Deal, two, August 19, 1949; Sandwich, one, August 11, 1950, one, August 5, 1955 (G. H. Youden). Ickham, 1954-59, fairly numerous at m.v.l., with occasionally "a black form" (D. G. Marsh). Near Worth, one, "very dark form", on Hemp Agrimony flowers, September 1, 1962 (T. W. Harman).

6. Springhead, common, 1906-13 (H. C. Huggins).

8. Dover, one, August 7, 1951, one, July 31, 1964, both in m.v. trap (G. H. Youden).

11. Frittenden Lake, pupa in stem of *P. communis*, August 5, from which a ♂ emerged August 6, 1955 (C.-H.).

12. Ham Street, two at m.v.l., Long Rope, July 31, 1951 (C.-H.); August 3, 1951 (E. W. Classey, *fide* E. Scott); one, "dark form", taken near a pond at light, September 2, 1962 (M. Singleton). Wye, one, August 13, 1953; one, August 8, 1954 (W. L. Rudland). Potters Corner, West Ashford, a small colony discovered, 1961; six at light, September 15, 1962 (M. Singleton, M. Enfield, and D. Youngs). Ham Street Village, August 31, 1957 (de Worms, *Entomologist*, 91: 152).

15. Dungeness, one, at light, August 10, 1936 (J. O. T. Howard, teste A. J. L. Bowes); eight at m.v.l., August 3, 1951 (C.-H.); c. 1952 (E. J. Hare); ♂, at light, July 25, 1952 (Jackson, *Entomologist*, 86: 2); two, August 3, 1953 (A. Richardson, *fide* A. M. Morley); one, 1957 (P. Cue); two August 30, 1962 (T. W. Harman). Lydd (Coxey, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1961: 29). Appledore, eight, August 6, 1956 (W. L. Rudland).

VARIATION.—In 1912, Edelsten (*loc. cit.*) observed that 75% of those he had from East Kent were referable to the typical *dissoluta* Treits., which is a blackish form. Contrary to the usual melanistic trend, however, the type does not appear to have increased since then, and indeed may even have become less numerous. For the records show that less than 50% of Kentish specimens noted as taken or bred during the past 30 years have been typical, and that the majority were referable, broadly speaking, to the brownish variegated ab. *arundineta* Schmidt (C.-H.). The following are in R.C.K. Typical *dissoluta* Treits.: E. Kent, several, 1907, E. A. Bowles; Herne Bay, three, July 1905, L. B. Prout; E. Kent, several, bred July 1924, A. J. Wightman; Kent, one, August 16, 1907, H. M. Edelsten. Ab. *arundineta* Schmidt: E. Kent, several.

FIRST RECORD, 1905: At meeting on October 3, 1905, L. B. Prout exhibited a series of "*Nonagria neurica*" from the East Kent marshes including the black form known as "var. *hessii*" which is not known to occur in the Norfolk Broads where the species is abundant (*Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1905: 11).

<sup>1</sup>Having regard to this, it is noteworthy that the species was recorded as of unusual occurrence in 1953 in Herts. and Surrey (cf. *Ent. Rec.*, 65: 291, 364), it being suggested that its appearance there might be due to immigration.

**Coenobia rufa** Haw. (**despecta** Treits.): Small Rufous.

Native. Marshes, ditches, fens; foodplant unknown.

1. Lee, in a swampy patch top of Manor Farm Lane, taken by H. T. Stainton before 1862; several, August 11-September 18, 1862; very common, July 22-August 10, 1863; plentiful July 15-24, 1865; 1866; scarce, August 6, 1874; extinct 1885 (Fenn, *Diary*; idem, *Ent. Rec.*, 6: 231).

2. Sittingbourne (H. C. Huggins).

4. Deal (see *First Record*); plentiful (Harding, *Entomologist*, 2: 194); "extremely abundant", 1881 (Tugwell, *Entomologist*, 14: 214); 1882, "by the sides of some rushy marsh ditches *Nonagria despecta* swarmed; one could get six or eight at one sweep of the net" (Tugwell, *Entomologist*, 15: 205); swarmed by the rushes at the second battery ditch, July 22, 1891, "I must have seen 1000" (Fenn, *Diary*; idem, *Ent. Rec.*, 2: 203). Reculver, common, July 23, 1935 (A. J. L. Bowes). Sandwich (E. & Y. (1949)). Ham Fen, two at light, August 6, 1950 (C.-H.).

8. Dover, one, 1938 (E. & Y. (1949)).

11. Hoads Wood (Scott (1950)); August 3, 1954 (P. Cue); about five at m.v.l., August 4, 1961 (B. F. Skinner). Sevenoaks Weald, two, at m.v.l., August 6, 1959, one, July 30, 1960 (E. A. Sadler).

12. Hothfield Bog (Scott (1936)). Ham Street (Scott (1936)); several at m.v.l. at edge of Birchett Wood, end July 1951 (C.-H.). Brook, 1951 (E. Scott). Willesborough, one at light, August 1959 (M. Singleton).

14. Tenterden, 1960 (C. G. Orpin).

15. Dungeness, July 22, 1935 (A. J. L. Bowes); August 4, 1946 (de Worms, *Entomologist*, 80: 81); several fresh, August 13, 1950 (D. G. Marsh); several at m.v.l., August 3, 1951 (C.-H.); July 27, 1956 (R. F. Bretherton); several, August 18, 1958 (E. C. Pelham-Clinton); 1959 (A. L. Goodson).

16. Folkestone Town, one, August 13, 1953 (A. M. Morley).

VARIATION.—Tutt (*Br. Noct.*, 1: 48) says: "I took a very long series at Deal, and found every gradation in colour, from a very deep reddish, to an exceedingly pale greyish-white". He also (*loc. cit.*) describes ab. *pallescens* from Deal.

FIRST RECORD, 1859: Harding, *Ent. week. Int.*, 6: 124.

**Chilodes maritima** Tausch. (**ulvae** Hübn.): Silky Wainscot.

Native. Maritime and sub-maritime reed beds; foodplant unknown.

2. Gravesend, "bred and at sugar and mothing" (Button, *Entomologist*, 4: 129); a few, July 10, 1869 (Miller & Jones, *Ent. mon. Mag.*, 6: 114); between Shorne Mead and Higham, four, July 4, 1874 (Fenn, *Diary*) (Cliffe (V.C.H. (1908)), may refer); plentiful, and ab. *wismariensis*, 1926-27 (Grant & Watson, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1927-28: 106). Greenwich Marshes, three, 1895, C. H. Forsythe (C.-H. coll.). Rochester dist., one, July 1904 (Ovenden, *Ent. Rec.*, 16: 239). Greenhithe (Farn MS.). Sittingbourne, plentiful, two ab. *bipunctata*, several abs. *nigrostriata* and *wismariensis* (H. C. Huggins); June 26, 30, 1949, six *wismariensis*, six *nigrostriata*, among nearly 100 *maritima*, mostly at light; only two moths, June 20, 1953; four, June 22, 1956 (C.-H.). Kingsferry, Sheppey, four, including one *wismariensis* (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1932-33: 111). Nagden Marshes, Faversham, one, June 25, 1952 (C.-H.). Dartford Marshes, one, 1956 (B. K. West).

4. Minster, one, June 3, 1906; two, ab. *bipunctata*, June 18, 30, 1904; one, ab. *wismariensis*, June 16, 1902 (J. P. Barrett coll.). Sandwich, July

24, 1938, taken by J. O. T. Howard (A. J. L. Bowes).

[11. "A doubtful specimen taken on a bog near Shipbourne awaits confirmation" (Knipe (1916)).]

12. Willesborough, ♂, on window of a shed, taken August 1959 (M. Singleton).

15. Dymchurch, five taken, 1933, all ab. *nigrostriata* (misprinted "*nigrocincta*") (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1933-34: 50). St. Mary-in-the-Marsh, July 30 (1), 31 (1), August 1 (1), 1948, at car lights (P. Le Masurier).

16. Folkestone, one, June 1951, by A. G. Riddell (Morley, *Ent. Rec.*, 64: 171).

VARIATION.—At Sittingbourne, about 1 in 15 is ab. *wismariensis* Schmidt; about 1 in 20 is ab. *nigrostriata* Stgr.; and according to H. C. Huggins, about 1 in 150 is ab. *bipunctata* Haw. (C.-H.). In R.C.K. are single specimens of ab. *nigrostriata* and *bipunctata* from Kent, each labelled: "S. Kent 30.6.1934. B. H. Armstrong".

FIRST RECORD, 1868: Gravesend (Button, *Entomologist*, 4: 129).

#### CARADRININAE

##### **Meristis trigrammica** Hufn. (**trilinea** Schiff.): Treble-line.

Native. Woods, chalk downs, etc.; on *Centaurea nigra*, *Cirsium acaule*. In all divisions; apparently scarce in 15. "Generally common" (V.C.H. (1908)).

The moth seems very occasionally to fly naturally by day. Thus, A. A. Allen states that in Greenwich Park, c. 1926, he observed one hovering for some time at flowers in a flower-bed in the afternoon sun.

15. Dungeness, five at m.v.l., June 10-23, 1962, all singletons; none in 1963 (R. E. Scott).

There is no record of the feral larva, but at Wye Crown on the night of May 31, 1953, I watched a ♀ flying low over the down and deposit several ova on the uppersides of leaves of *C. nigra* and *C. acaule* (both det. F. Rose) (C.-H.).

VARIATION.—The majority of Kentish specimens are referable to typical *trigrammica* Hufn.; ab. *evidens* Thunb., the ochreous form, is frequent and seems to occur everywhere with the type, and some extreme examples that I have of this tend to be rust-coloured; ab. *semifuscans* Haw. is scarce, I have one only from West Wickham; ab. *semifuscans* Haw. + *evidens* Thunb., one, Sandwich, one, Broad Oak; of ab. *bilinea* Haw. (= *obscura* Tutt), which appears to favour chalky districts, although not confined to them, I have only once seen myself, West Wickham, 1962, but possess another taken by E. Scott, Westwell, 1953; ab. *approximans* Haw. is fairly frequent, but as yet I know of no Kentish specimen in which the 2nd and 3rd lines actually touch on the inner margin; ab. *renata* Lenz, ♀, Sandwich, June 16, 1950, is the only Kentish example of this known to me (C.-H.).

Ab. *bilinea* Haw. has also been noted as follows:—Sandhurst, one, 1927, one, 1939 (G. V. Bull); Aylesford, one, 1953 (G. A. N. Davis); Otford, eight taken, others seen, 1955-56 (W. B. L. Manley); Folkestone (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1952-53: 41). Under *bilinea* Hübn., Stephens (*Haust.*, 2: 153) and Curtis (*Br. Ent.*, 651) give Birch Wood; probably the references are to *bilinea* Haw. though, indeed Curtis's figure is quite clearly this ab.

The following named abs. are in R.C.K.:—*trilinea* Hb., Wye, one; *semifuscans* Haw., Wye, several; *semifuscans* Haw. + *evidens* Thunb., Wye; *pallida-linea* Tutt (= *bilinea* Treits.), Chatham, one; *approximans* Haw., Chatham, one, 1908; *approximans* Haw. + *semifuscans* Haw., Ham Street, one, 1948.

FIRST RECORD, 1829: Darenth Wood (Stephens, *Haust.*, 2: 152).

### **Caradrina morpheus** Hufn.: Mottled Rustic.

Native. Waste places, marshes, gardens, river-banks, etc.; foodplant unrecorded. In all divisions. "Generally common; often abundant" (V.C.H. (1908)).

A. R. Kidner (*Diary*) records finding larvae at Sidcup as follows, but gives no mention of the foodplant:—Several on September 19, 1928, one on September 5, 1930.

VARIATION.—Many Kentish specimens have a reddish tint around the stigmata, and thus appear to conform to ab. *sepii* Hübn., and all those that I have seen have been either this or typical *morpheus* Hufn. (C.-H.). Tutt (*Br. Noct.*, 1: 147) describes ab. *minor*, holotype, from Deal.

In R.C.K. are the following named abs.:—*sepii* Hübn., one "Westcombe Park June 1886 Tutt"; *obscura* Tutt, two, Westcombe Park, 1886, Tutt. Also, typical *morpheus* Hufn., Sheppney, one, 1924, bred E. A. Cockayne; several, Westcombe Park, 1892-93, Tutt; one, Wilmington, 1904.

FIRST RECORD, 1829: C. *sepii* Hübn. "A common species in gardens, on the borders of woods and in shady lanes throughout the metropolitan district" (Stephens, *Haust.*, 2: 158).

### **C. alsines** Brahm: Uncertain.

Native. Cultivated and waste places; on "dock". Recorded from all divisions, except 10 (from which it is unlikely to be absent). "Generally common; often abundant" (V.C.H. (1908)).

A. R. Kidner (*Diary*) wrote that he found a larva at Sidcup, on May 5, 1917. H. E. Hammond records a single larva found at Tonbridge in 1951, which was feeding on dock.

VARIATION.—Stephens describes ab. *implexa* from Darenth Wood (see *First Record*). In R.C.K. are ab. *elegans* Lempke, one, "Tutt Deal 12.vii.90"; ab. *rufescens* Lempke, several, Chattenden.

FIRST RECORD, 1829: C. *implexa* Steph., Darenth Wood, 1820 (Stephens, *Haust.*, 2: 156).

### **C. blanda** Schiff. (***taraxaci*** Hübn.): Rustic.

Native. Cultivated and waste places; foodplant unknown. Recorded from all divisions. "Generally common; often abundant" (V.C.H. (1908)).

The records indicate that this is generally the most numerous *Caradrina* in Kent, especially on the coast, and at Sandwich (div. 4) in my experience it almost entirely replaces *C. alsines* Brahm.

The moth normally appears in one generation from about the end of June to mid August. In 1955, W. L. Rudland took one at Willesborough on October 2, probably representative of a partial second brood; and in 1956, the same recorder noted it on the wing at Wye as early as June 10.

There is no record of the discovery in Kent of any of the early stages in nature.

VARIATION.—Tutt (*Br. Noct.*, 1: 149-151) records ab. *sordida* Haw., from Chattenden Wood. He states that specimens from the coast of Kent are "rarely brown, and often have a distinct purplish tinge, the basal area of the hindwings of the male also being of a very pale grey", and refers these to ab. *blanda* Gn. He mentions a "fuscous black form which I have taken at Deal".

In R.C.K. are ab. *taraxaci* Hübn., one, "Deal 18.viii.88 Tutt"; ab. *redacta* Haw., three, Sandwich, one, Dungeness. Also, typical *blanda* Schiff., Chattenden, one.

FIRST RECORD, 1829: *Noctua redacta* Haw., near Darenth Wood, "where I have taken it abundantly" (Stephens, *Haust.*, 2: 156).

### C. *ambigua* Schiff.: Vine's Rustic.

Suspected immigrant and temporary resident. Waste places, etc.; foodplant unknown. Recorded from all divisions (except 10, 13, 14), though mainly from the east coast.

The history of *ambigua* in Kent shows certain similarities to that of *Laphygma exigua* Hübn. (q.v.). Both were of very occasional occurrence prior to about 1935, but have since appeared much more regularly and in far greater numbers. In the case of *ambigua*, however, the comparative numerical increase and greater regularity of occurrence is more marked, and there are indications that it has for some years now been resident in Kent.

19th Century Occurrence.—1885: Deal, one, August (Tutt, *Entomologist*, 19: 42). 1886: Deal (Prout, *Ent. Rec.*, 6: 203-204). 1887: Deal, ♂, July (Prout, *loc. cit.*). 1888: Deal, ♂, July (Prout, *loc. cit.*). Note: It may be inferred that J. W. Tutt was the captor of all Kentish *ambigua* taken 1885-88, and that his "numerous *ambigua* . . . dated June or August", referred to by Prout, were likewise taken by him at Deal during this period.

1917-1928.—1917: West Wickham (div. 1), one taken at sugar, July 21 (Kershaw, *Entomologist*, 51: 67). 1928: Margate, one, taken August 6 (Huggins, *Entomologist*, 61: 223).

1934-1939.—1934: Dungeness (Morley, *Proc. S. Lond. ent. Nat. Hist. Soc.*, 1934-35: 50). 1935: Dungeness, several, September 7 (de Worms, *Entomologist*, 69: 157); September 30 (J. H. B. Lowe). Reculver, September 18 (1), 22 (2), 26 (1) (A. J. L. Bowes). 1936: Sandwich, September 6 (A. J. L. Bowes). 1938: Dungeness, August 6 (2), 25 (A. J. L. Bowes); September 2, 3, 4, and 5, fairly numerous on each night at sugar (de Worms, *Entomologist*, 72: 262). Sandwich, September 6 (A. J. L. Bowes).

1945-1964.—The records show that except for 1947, the moth has occurred annually during this period, and was particularly plentiful in 1950, 1951, 1952, and 1962. 1945:—Folkestone-Dungeness area, four, August 1-10 (Richardson, *Entomologist*, 79: 19). Broad Oak, one, August 7; Sandwich, one August 11 (C.-H.). Dungeness, one, September 1 (de Worms, *Entomologist*, 79: 77). Goodnestone (div. 8), September, fairly common at sugar (R. W. Parfitt). 1946: Dungeness, September 18 (1), 27 (1) (A. M. Morley, *per* Dannreuther, *Entomologist*, 80: 140). 1948: Deal, June 13 (♂), 14 (♀), at valerian (C. M. Gummer, *per* Dannreuther, *Entomologist*, 82: 107). Dover, August 26 (1), September 11 (2) (G. H. Youden, *per* Dannreuther, *Entomologist*, 82: 107). Ramsgate, August 28 (1) (A. H. Lanfear). Petts Wood (div. 1), one (E. E. Evans). 1949: Dungeness, August 13 (1),

23 (24 at sugar) (A. M. Morley *per Rothamsted*); September 3 (1), 4 (1), 6 (4) (R. W. Parfitt *per Rothamsted*). Eddington (div. 3), August 27 (several) (D. G. Marsh, *Diary*). East Kent [Dungeness], common at sugar, August 27 (G. Haggett *per Rothamsted*). Deal, September 2 (1) (C. M. Gummer *per Rothamsted*). Isle of Thanet (Manley, *Proc. S. Lond. ent. Nat. Hist. Soc.*, 1949-50: 38). Pinden (div. 6), two (E. J. Hare). Ham Street, several, September (Scott (1950)). 1950: Dungeness, a few, June 6-7 (E. C. Pelham-Clinton); August 11 (3) (A. M. Morley *per Rothamsted*). Sandwich, June 15, August 11 (plentiful both nights) (D. G. Marsh, *Diary*); June 16 (10); August 26 (plentiful) (C.-H.). Deal and Sandwich, June and September (20) (C. M. Gummer *per Rothamsted*). Eddington, August 8, 18 (plentiful both nights) (D. G. Marsh, *Diary*). Cliftonville, plentiful (W. D. Bowden). Pinden, common (E. J. Hare). Folkestone, August 28 (1) (A. M. Morley *per Rothamsted*). West Wickham (E. Trundell). 1951: Margate, June 20 (1), September 14 (1); Minster (div. 4), July 2 (1) (W. D. Bowden). Bexley, June 24 (1) (A. Heselden). Aylesford (G. A. N. Davis). Eddington, August 3 (1), September 21 (1) (D. G. Marsh). Pinden, common (E. J. Hare). Folkestone (div. 16), 59 in all, with 20 on September 5 (Morley, *Ent. Rec.*, 64: 171). Dover, "has appeared in astonishingly large numbers" (Youden, *Entomologist*, 84: 261). Brook, September 22 (2) (C. A. W. Duffield, *fide* E. Scott). West Wickham (E. Trundell). 1952: Folkestone, May 27—June 22 (12), August 6—September 12 (84) (A. M. Morley *per Rothamsted*). Dungeness, May 31 (several); Broad Oak, June 14 (1) (C.-H.). Dover, May and August, common (G. H. Youden *per Rothamsted*). Bexley, August 28 (1) (A. Heselden). Abbey Wood (A. J. Showler). Pinden, common (E. J. Hare). Aylesford (G. A. N. Davis). Westerham (div. 5), August 25 (1) (R. C. Edwards). Ham Street, August 9 (1) (A. Richardson *per Rothamsted*). West Wickham (E. J. Trundell). 1953: Folkestone and Dover, common at coast in two broods (A. M. Morley & G. H. Youden *per Rothamsted*). Wye, July 8—October 3 (4); Willesborough, September 11-18 (4) (W. L. Rudland). Aylesford (G. A. N. Davis). West Wickham (E. Trundell). 1954: Sandwich, June 14 (1); Cliftonville, June 17 (1) (W. D. Bowden). Willesborough, July 12 (1) (W. L. Rudland). West Wickham (E. Trundell). Dartford Heath, August 28 (1) (C.-H.). 1955: Queensbridge, June 25 (1) (W. D. Bowden). Willesborough, August 4-8 (4), 30 (1) (W. L. Rudland). 1956: Willesborough, July 17—September 17 (15); Wye, July 21—September 14 (9) (W. L. Rudland). Lydd, September (several) (de Worms, *Entomologist*, 90: 182). 1957: Folkestone, June 18 (1), September 26 (1) (A. M. Morley *per Rothamsted*). St. Peters, August 20 (W. D. Bowden). Ham Street, August 31 (de Worms, *Entomologist*, 91: 152). Dungeness, September 1 (de Worms, *loc cit.*); six (P. Cue). Ashford, one (P. Cue). 1958: Folkestone, September 18 (1) (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1959: 43). Lydd-on-Sea (Wakely, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1958: 42; *idem, Ent. Rec.*, 71: 93). Shorne (div. 6a), one, September 4 (E. Trundell). 1959: Folkestone, August 26 (1) (A. M. Morley *per Rothamsted*). Dover, autumn (a few) (G. H. Youden *per Rothamsted*). 1960: Dover, June 11 (2) (G. H. Youden *per Rothamsted*). Folkestone, September 1 (1) (A. M. Morley *per Rothamsted*). Cliffe Marshes, September 3 (R. G. Chatelain). Bromley, six (D. R. M. Long). 1961: Folkestone, two (A. M. Morley *per Rothamsted*). Westerham (div. 5) (R. C. Edwards). Bromley, 31, with max. (12) on August 30 (D. R. M. Long). 1962: Dungeness, June 11-30 (34), July 13 (5), August 29, 30, October 10 (1), 15 (1) (R. E. Scott). Ham Street, September 12 (1); Lee, September 14

(1) (C. G. Bruce). Bromley, 83, June 15—October 23 (D. R. M. Long). West Ashford, October 20 (1) (M. Enfield). 1963: Dungeness, June 12—October 11 (13) (R. E. Scott). Lee, September 9 (1) (C. G. Bruce). Bromley, 12 (D. R. M. Long). 1964: Bromley, August 28 (1), September 6 (1) (D. R. M. Long).

FIRST RECORD, 1886: Deal (Tutt, *Entomologist*, 19: 42).

**C. superstes** Ochs. (**blanda** Hübn.): Powdered Rustic.

Immigrant.

4. Deal\*, two ♂♂, taken by J. W. Tutt, July 1886 (Tutt, *Ent. Rec.*, 4: 99, 6: 53-54; Prout, *Ent. Rec.*, 6: 203) (in *Lond. Nat.*, 1945: 17, the captor of these *superstes* is given as A. J. Hodges in error). In R.C.K. are two *superstes*, labelled: "Deal July 1886 (ex Tutt coll.)" (C.-H.).

FIRST RECORD, 1891: Deal (Tutt, *British Noctuae and their Varieties*, 1: 149).

**C. clavipalpis** Scop. (**quadripunctata** F.): Pale Mottled Willow.

Resident. Gardens, vegetable fields, marshes, waste places, etc.; food-plant unknown. Recorded from all divisions, except 10 (from which it is most unlikely to be absent). "Generally common" (V.C.H. (1908)).

The moth seems to appear in a succession of broods, with maximum numbers in September, and has been noted in every month from February to November inclusive. In 1957, Allen (*Ent. Rec.*, 69: 245) recorded its occurrence at Blackheath as early as February 20; and H. D. Stockwell (*Diary*) observed one "on a bedroom window" at Dover in 1900 as late as November 3.

There is no record of the discovery in Kent of any of the early stages in nature.

VARIATION.—Tutt (*Br. Noct.*, 1: 154) records specimens from Deal referable to ab. *albina* Ev.; and Andrews (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1898: 122) exhibited one from Darenth Wood supposedly this species, which "was very dark, and almost the whole central area of the forewings was black".

In R.C.K. is ab. *thunbergi* Nordstrom, one, labelled "Deal Tutt '90".

FIRST RECORD, 1829: Birch Wood (Stephens, *Haust.*, 2: 158).

**Laphygma exigua** Hübn.: Small Mottled Willow.

Immigrant. Vegetable, clover and lucerne fields, waste places, etc.; foodplant unknown. Recorded from all divisions (except 2, 6a, 10, 14), but has mostly occurred on the east coast.

Altogether there are records of over 300 *exigua* for Kent; of this number, however, only about 20 occurred up to 1937, though in the following year it is estimated that roughly 170 were noted. None was recorded for the period 1939-44, but since 1945 the moth has appeared fairly regularly, and in 1962, 62 individuals were recorded.

There is no record of the discovery of any of the early stages in nature, though in 1938, Bowes (*Ent. Rec.*, 51: 107) made a particular point of searching for the larva, and careful examination of all likely plants failed to reveal it. It is probable, nevertheless, that in certain years, e.g. 1952 and 1963, early immigration was followed by successful breeding in Kent during the summer, giving rise to large numbers of offspring appearing in August and September.

1858-1888.—1858: Deal (Harding, *Ent. week Int.*, **4**: 197). 1862: Hither Green Lane, Lewisham, one, beaten from sallow blossoms, March 24 (Fenn, *Proc. ent. Soc. Lond.*, 1861: lxxii). 1877: S.E. Kent Coast [Deal], August, one taken and another seen (Tugwell, *Entomologist*, **10**: 255, idem, *Ent. mon. Mag.*, **14**: 112, idem, *Nat.*, n.s., **3**: 41). 1880: Deal, one, September (Harbour, *Entomologist*, **14**: 18). 1884: Greenwich, July 8 (1) (Tutt, *Entomologist*, **17**: 234); September 21 (1) (Tugwell, *Entomologist*, **17**: 235). Deal, one, September (Harbour, *Entomologist*, **17**: 273). 1888: Deal Marshes, one, August 27 (Fenn, *Diary*).

1903-1906.—1903: Southborough near Tunbridge Wells, one, September 3 (Phipps, *Entomologist*, **37**: 286). 1906: Bexley, ♂, August 26 (Newman, *Entomologist*, **39**: 212, idem, *Ent. Rec.*, **18**: 241). Dover, one, September 8 (Abbott, *Entomologist*, **39**: 258). Margate, two taken at sugar, September (Barrett, *Entomologist*, **40**: 14).

1928-1938.—1928: Margate, four taken, August (Huggins, *Entomologist*, **61**: 223, idem, *Entomologist*, **62**: 71). 1931: Deal, ♀, taken August 14 (C. J. Goodall per Rothamsted). 1934: Dungeness, one, September 16 (Whitehouse MS.; idem, *Entomologist*, **68**: 147); one, September 17 (Lees, *Ent. Rec.*, **48**: 16). 1937: Dungeness, one, September 13 (B. Embry per Dannreuther, *Entomologist*, **70**: 230).

1938: Dungeness, August 4, 6, 9 (2) (A. J. L. Bowes); August, "five or six was the usual reward for an evening's work at Dungeness, and on the 16th Mr. Russell James saw as many as fifty"; four, September 11 (Bowes, *Ent. Rec.*, **51**: 107, 109); August 30 (A. M. Morley per Dannreuther, *Entomologist*, **72**: 120); August 25, *exigua* "just beginning"; September 2, 3, 4, 5, 6, fairly numerous on each night (de Worms, *Entomologist*, **72**: 262); October 15 (1) (A. H. Lanfear). Dungeness, ♀, taken by me at sugar, August 12, had laid 150 ova by August 16; two, September 28; Birchington, ♂, August 4, in clover field; Sandwich, six at sugar, six at light, September 25 (C.-H.). Chislet near Herne Bay, ♂, in lucerne field, August 9; Canterbury, ♂, at street lamp, August 6; Westwell, August 13 (1), 14 (1) (A. J. L. Bowes). Kearsney, ♀, September 12; Dover, September 26 (1) (E. & Y. (1949)). Barfreston, September 22, one (W. E. Busbridge, *Diary*). Sidcup (div. 1), one on fence, September 17 (A. R. Kidner, *Diary*). Westerham (div. 5), at light, August 4, 15, 22, 23, 25, 27 (R. C. Edwards).

1945-1962.—1945: Goodnestone, ♀ September 4 (R. W. Parfitt). Pinden, ♀, September 9 (E. J. Hare). Dungeness, September 19 (1) (A. M. Morley). 1946: Near Canterbury, 2 ♂♂, August 25 (Parry, per Dannreuther, *Entomologist*, **80**: 140). 1947: Westerham (div. 5), June 30, August 19, September 19 (R. C. Edwards). Petts Wood, August 19 (1) (Evans, *Entomologist*, **81**: 72). Folkestone, August 21 (Fairclough, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1947-48: 26). West Wickham, ♂, ♀, August 17, the ♀ laid nearly 700 ova (C.-H.). Herne Bay (D. G. Marsh). 1949: Dungeness, ♀, August 23 (Morley, *Trans. Folkestone nat. Hist. Soc.*, 1949-50: 18). Eddington, one, August 27 (D. G. Marsh). Lydd-on-Sea, one, September 17 (Parfitt, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1949-50: 39). Westwell, ♀, September 11 (E. Scott, per Rothamsted). 1950: Goudhurst, one (W. V. D. Bolt). 1951: Dover, June 22 (1), August 21 (1) (Youden, *Entomologist*, **84**: 261). Ham Street, July 31 (1) (C.-H., *Entomologist*, **84**: 257). Folkestone (div. 16), September 5 (1) (Morley, *Ent. Rec.*, **64**: 171). Aylesford (div. 11) (G. A. N. Davis). 1952: Westwell, ♂, March 3, at light; ♂, August

13, at light (E. Scott). Dymchurch, July (2) (Wakely, *Ent. Rec.*, **65**: 44). Folkestone, August 12 (1), 13 (1), 14 (1) (A. M. Morley *per Rothamsted*). Dungeness, August 17 (2) (G. H. Youden *per Rothamsted*). West Wickham, August 14 (1) (E. Trundell); two (Birchenough, in de Worms, *Lond. Nat.*, 1955: 41). Pinden, three (E. J. Hare). Aylesford (div. 11), two (G. A. N. Davis). Ashford, August 24 (2) (P. Cue). 1953: Aylesford (div. 11), three (G. A. N. Davis). Plumstead (C. Hards, teste A. J. Showler). 1955: Ashford, ♂, March 25, in light trap (P. Cue). 1957: Pinden, July 3 (2) (Hare, in de Worms, *Lond. Nat.*, 1959: 109). Westerham (div. 5), August 19 (1), 24 (1) (R. C. Edwards). St. Peters (div. 9), September 16 (1) (W. D. Bowden). Westwell, October 30 (1) (E. Scott, *Diary*). 1958: Pinden, August 22 (1); Dover, September 6 (1) (French, *Entomologist*, **92**: 174). 1959: Pinden, August 26 (1), September 5 (1) (French, *Entomologist*, **95**: 176).

1962: Folkestone, May 6 (1), 10 (1), 15 (1), July 21 (1), 22 (1), 26 (1), 30 (1), 31 (1), August 23 (2), 28 (1), 29 (1), September 10 (1), 27 (1), 30 (1) (A. M. Morley *per Rothamsted*). Orpington, May 6 (3) (P. E. & D. W. Webb *per Rothamsted*). Bromley, May 7 (♂), 8 (♂) (Long, *Ent. Rec.*, **74**: 162). Worth, June 9 (1), August 29 (12, at light), September 1 (2) (T. W. Harman). Pinden, July 17 (1), August 10 (1), 18 (1), 22 (3), 23 (1), September 6 (1), 9 (1), 12 (1) (E. J. Hare *per Rothamsted*). Dover, July 27 (1), August 19 (1), September 3 (1), 10 (1), October 7 (2), 9 (1) (G. H. Youden *per Rothamsted*). Ickham, August 5 (1), 12 (3), 19 (1) (D. G. Marsh *per Rothamsted*). Farningham Woods, September 12 (♂) (R. G. Chatelain). Westerham, several (R. C. Edwards).

FIRST RECORD, 1858: Deal, between August 21 and September 4, "rare" (Harding, *Ent. week. Int.*, **4**: 197).

#### APAMEINAE

##### **Dypterygia scabriuscula L. (*pinastri* L.): Bird's-wing.**

Native. Woods and their vicinity; foodplant unknown.

Most records are of single specimens, and the moth is seldom observed plentifully. It is remarkable that there is no record of the species for the heavily wooded division 14.

A partial second generation may occur very occasionally. Thus, Bower (*Ent. Rec.*, **12**: 340) records taking a perfect imago at Lee in 1900 in mid-September. The moth has also been taken abnormally early, one having been captured at Bexley by Fenn (*Diary*) in 1862, on May 26.

1. "Generally common in the London district" (V.C.H. (1908)). Recent records are:—Charlton, one at light, July 29, 1946 (J. F. Burton). Petts Wood, one each year, 1947-49 (E. E. Evans). West Wickham, one, 1951 (E. E. J. Trundell); about 20 in m.v. trap, 1963 (C.-H.). Abbey Wood, 1953 (J. Green). Keston, one, 1946 (D. F. Owen). Bexley, four, May 31-June 27, 1952 (A. Heselden). Orpington, 1953, about six at sugar per night; two, 1958 (R. G. Chatelain). Blackheath, three at m.v.l., 1960 (A. A. Allen). Lee, 1953, 1955, 1959 (C. G. Bruce). Bromley, 1960 (5), 1961 (14), 1962 (17), 1963 (14) (D. R. M. Long).

2. Greenwich Marshes, one, July 30, 1861 (Fenn, *Diary*).

3. Den Grove, Sturry, one, at sugar, 1936, one, June 25, 1938, one, June 11, 1947; Broad Oak, one, July 4, 1944, one, July 1, 1946 (C.-H.). Pine

Wood, one, c. 1946 (J. A. Parry). Blean Woods (D. G. Marsh).

4. Sandwich, one, July 2, 1937 (A. G. Peyton). Ickham, 1954-59, occasional, with one or two most years (D. G. Marsh).

5. Chevening, July 9, 1912, June 11, 1917 (Gillett, *Diary*). Downe (R. Birchenough, in *de Worms, Lond. Nat.*, 1954: 101).

6. Greenhithe (A. B. Farn MS.). Gravesend (H. C. Huggins). Pinden (E. J. Hare). Otford, in m.v. trap, 1955-56, two only (W. B. L. Manley).

6a. Cobham, July 19, 1894 (Pye, *Rochester Nat.*, 1896 (51), 353); June 15-23, 1912 (F. T. Grant). Darent Wood, one, June 25, 1925 (F. T. Grant).

7. Sittingbourne; Faversham (H. C. Huggins). Westwell (Scott (1936)). Boxley, 1953 (A. H. Harbottle).

8. Near Barham, June 24, 1935 (E. & Y. (1949)). Waltham, one, 1951 (J. W. C. Hunt).

9. Birchington, one, August 21, 1915 (H. G. Gomm).

10. Seal Chart (Carrington, *Entomologist*, 13: 79). Brasted (R. M. Prideaux). Westerham (R. C. Edwards). Sevenoaks, June 28, July 26, 1919 (Gillett, *Diary*); 1944 (F. D. Greenwood) (H. E. Hammond).

11. Wateringbury, uncommon (V.C.H. (1908)). Edenbridge, 1930 (F. D. Greenwood). Shipborne (D. J. A. & P. A. Buxton coll.). Tonbridge, 1939 (H. E. Hammond). Aylesford (G. A. N. Davis).

12. The Warren, Ashford; Wye\* (Scott (1936)). Brook\*, occasionally at light (C. A. W. Duffield, *fide* E. Scott). Wye, one, July 8, 1953, one, June 23, 1954, one, June 25, 1955, two, June 25-July 14, 1956; Willesborough, June 1-July 14, 1954 (27), June 15-July 30, 1955 (23), May 28-July 30, 1956 (33) (W. L. Rudland). Ashford Town (P. Cue). Ham Street, one, 1948 (C.-H.). Ashford district, numerous, 1959-60 (M. Singleton).

13. Tunbridge Wells, 1891-92 (Beeching, *Ent. Rec.*, 2: 229, 3: 158); "uncertain; in 1906 it was in hundreds" (E. D. Morgan, in Given (1946)); occasional, 1957-59 (L. R. Tesch, *fide* C. A. Stace). Goudhurst, numerous at light (W. V. D. Bolt, *personal communication*, 1961).

16. Near Hythe (Morley (1931)). Folkestone Town, five, 1951 (A. M. Morley). Sandgate, one, 1961 (N. Reay-Jones).

FIRST RECORD, 1847: Lewisham, 1846 (*Stainton, Zoologist*, 1790).

[*Prodenia littoralis* Boisd. (*litura* auctt. *non* F.)<sup>1</sup>: Mediterranean Brocade.

Suspected importation, probably now extinct. Glasshouses; on garden chrysanthemum.

The following details of its occurrence in Kent have been communicated by W. L. Rudland (Min. of Agriculture, Wye), who as Plant Health Inspector, was involved in the appearance of the species from the beginning. He writes (*in litt.*) that during 1963, *P. littoralis* "was found breeding on glasshouse chrysanthemums at three nurseries in Kent situated in the Headcorn, Maidstone [both in div. 11] and Preston [div. 4] areas. As it was considered to be a potentially serious pest under glass, a rigorous spray programme was carried out. No further occurrence was noticed in 1964". He furthermore says that "being a non-indigenous pest under the D.I.P. Act, all ova, larvae and adults found were sent to Path. Lab.;" and with regard to their determination, adds that the "spot identification of *Prodenia litura* Fab. was translated to *Spodoptera littoralis* Boisd. by the British Museum".

I have 5 ♂♂, 3 ♀♀ from P. Aitkenhead (Plant Pathology Lab. Harpen-

den), labelled "Sussex and Kent origin, autumn 1963, bred out in laboratory cultures 11.4.64". These I submitted to I. W. B. Nye (Br. Mus. (Nat. Hist.), S. Kensington), who has confirmed identification as *littoralis* Boisd. (*non litura* F.) (C.-H.).

**FIRST RECORD**, 1963: Of *Prodenia litura*, there have been "reports of its depredations in glasshouse crops on holdings in Kent, Sussex, . . ." (Anon., *Evening News*, 13.xii.1963). The article is L. B. Powell, and is based on a Press notice issued by the Ministry of Agriculture (cf. C.-H., *Ent. Rec.*, **76**: 59-60, 199).]

<sup>1</sup>Until recently *Prodenia litura* F. and *P. littoralis* Boisd. were considered synonymous. Viette (1963, *Bull. Mens. Soc. Linn. de Lyon*, **32**: 145-148) however, showed them to be specifically distinct, with a comparison of the genitalia.

#### **Apamea lithoxylea** Schiff.: Light Arches.

Native. Rough grassy places, etc.; foodplant unknown. Found in all divisions. "Generally common" (V.C.H. (1908)).

The moth is normally on the wing from the end of June or early July to the beginning of August. A. R. Kidner records taking one at Sidcup in 1922, on June 5, a remarkably early date.

There is no record of the discovery of the larva in a state of nature, but a pupa dug in my garden at West Wickham, in the spring of 1955, produced a moth on July 10 of that year (C.-H.).

**FIRST RECORD**, 1829: Darenth (Stephens, *Haust.*, **2**: 175).

#### **A. sublustris** Esp.: Reddish Light Arches.

Native. Chalk downs, maritime sandhills; foodplant unknown. Locally plentiful coastally in 4, 8. Perhaps casual in 1, 9, 11, 13.

1. Farnborough\* (H. Alderson, in *Wool. Surv.* (1909)). Chislehurst, one at light, July 20, 1915 (S. F. P. Blyth). Orpington, 1948-53 (L. W. Siggs). West Wickham, 1951 (E. Trundell). Hayes (Birchenough, in *de Worms, Lond. Nat.*, 1954: 100).

4. Recorded many times from the Deal-Sandwich sandhills, where it is numerous at light, sugar and marram (C.-H.). Ickham, 1954-57, an occasional one at m.v.l. most years (D. G. Marsh).

5. Chevening, June 24, 26, 30, July 1, 1912; June 20, 1913 (Gillett, *Diary*). Westerham (R. C. Edwards). Biggin Hill, one, July 16, 1955 (C.-H.). High Elms, one, July 23, 1963 (R. G. Chatelain).

6. Eynsford, two, June 27, 1914 (S. F. P. Blyth); June 19, July 8, 1960 (R. G. Chatelain). Oftord, common, 1955-56 (W. B. L. Manley). Shoreham, July 20, August 2, 1962 (C. G. Bruce).

6a. Cobham district, June 6, 1942 (F. T. Grant).

7. Westwell (Scott (1936)); fairly common annually (E. Scott, *personal communication*, xii.1954).

8. "Found all along the coast from Sandwich (div. 4) to the Warren" (E. & Y. (1949)). Recorded many times from the coast of this division (cf. *Ent. week. Int.*, **9**: 139; *Ent. Mon. Mag.*, **1**: 191; Knaggs (1870); *Entomologist*, **15**: 198, **16**: 220, **25**: 322, **32**: 278; *Trans. Cy Lond. ent. nat. Hist. Soc.*, 1905: 11, 1908: 1; *Ent. Rec.*, **25**: 174; Morley (1931)). Away from the coast the species appears to be markedly less plentiful. Inland records are as follows. Poulton Woods, June 27, 1908 (P. A. Cardew, *Diary*).

Ewell Minnis; Martin (E. & Y. (1949)). Stowting (C. A. W. Duffield). Brook, annually (E. Scott, *personal communication*, xii.1954). Elham, four, July 1-7, 1934; one at dusk, Wingmore, July 2, 1934 (W. E. Busbridge, *Diary*). Wye (Scott (1936)); June 30-July 13, 1953 (4), July 24, 1954 (1), July 12-21, 1955 (5), July 14-24, 1956 (4) (W. L. Rudland).

9. Margate, one on fence, July 10, 1921 (H. G. Gomm, *Diary*).
11. Aylesford, c.1953 (G. A. N. Davis).
13. Tunbridge Wells, one at light in Frant Road (Knipe (1916)).
15. Dungeness, several, August 5, 1931 (H. B. D. Kettlewell, *fide* A. M. Morley); two, in m.v. trap, July 23, 24, 1963 (R. E. Scott). Lydd-on-Sea, one, June 16, 1957 (T. G. Edwards).
16. Folkestone Town, rare; singletons, 1929, 1934, 1951, 1953, 1954 (A. M. Morley). Sandgate, one, 1960 (N. Reay-Jones).

VARIATION.—Tutt (*Br. Noct.*, 1: 75-76) states that it is "very variable on the coast of Kent", and includes the following named ab. as occurring there: *intermedia* Tutt, "the ordinary form on the south-east coast of England"; *pallida* Tutt, Deal, occasionally; *lithoxylea* Hübn., Deal, Folkestone, but comparatively rare.

The following named ab. are in R.C.K.:—*intermedia* Tutt, one, "Deal 86-90 Tutt sale"; *musicalis* Dup., one, "Deal 1903 C. F. Johnson", one, "Deal 89 Tutt sale".

FIRST RECORD, 1854: Kent coast [Deal], exhibited by H. J. Harding on September 6, 1854, at Society of British Entomologists (*Zoologist*, 4484).

#### **A. zollikoferi** Freyer: Scarce Arches.

Immigrant<sup>1</sup>. Altogether only 14 *zollikoferi* have been taken in Great Britain, and of these, seven have occurred in Kent, including six in div. 15 in September 1934<sup>2</sup>.

1867: Deal (div. 4)\* a ♂ taken at sugar by H. J. Harding, October 17 (Doubleday, *Entomologist*, 5: 29; Newman, *Insect Hunter's Year Book*, 1869: 6). This specimen† is in the H. Doubleday coll., Brit. Mus. (Nat. Hist.), S. Kensington (C.-H.). 1934 Dungeness (div. 15), six taken at sugar as follows. September 15 (2), by B. Whitehouse; September 16 (1), by F. H. Lees; September 16-17 (3), by B. Whitehouse (Cockayne, *Entomologist*, 68: 73-76).

[Wye (div. 8), one at sugar at Crown chalk-pit, September 1, 1934, but not taken as thought to be *Nonagria typhae* Thunb. Since *typhae* is not known to visit sugar however, it is considered probable that the specimen was *zollikoferi* (cf. de Worms, *Entomologist*, 70: 91).]

VARIATION.—Tutt (*Br. Noct.*, 1: 71) included the Deal specimen under ab. *pallida* Tutt; Cockayne (*loc. cit.*) however, refers it to ab. *internigrata* Warren.

Of the Dungeness examples, Cockayne (*loc. cit.*) states that the Whitehouse specimens consist of 2 ♂♂ ab. *internigrata*, and 2 ♂♂ 1 ♀ of the plain form with "pale yellowish-grey ground-colour"; and that the Lees specimen, a ♂ of the plain form, has "almost white ground-colour", but adds that the latter is rather worn whereas the others are perfect. One of the *internigrata*, taken September 16 (second figure on plt. 3, *Entomologist*, 68), and two of the "plain form" are in R.C.K. (C.-H.).

FIRST RECORD, 1870: Deal, taken in 1867 by H. J. Harding (Doubleday, *Entomologist*, 5: 29). This is also the first British record.

<sup>1</sup>Cockayne (*loc. cit.*) writing in 1935, suggested the perfect condition of many of the *zottikoferi* taken precluded the possibility of their having travelled very far, and consequently regarded them as home-bred progeny of immigrants of the previous year; a view no longer tenable since it is now known that lepidoptera are capable of transversing immense distances with apparently very little damage, if any, to wing structure. There are in fact strong indications that the 1934 *zottikoferi* were primary immigrants, and part of a widespread invasion involving amongst others such species as *Catephia alchymista* Schiff., *Leucania l-album* L., and *Conistra erythrocephala* Schiff.

<sup>2</sup>The species is a native of Russia, and is one of the rarest of Western European immigrants, with a total of only 54 individuals listed for the period 1834-1949 (cf. Warnecke, *Zeitsch. der Wiener Entom. Gesellschaft*, **44**: 101-108).

#### A. *monoglypha* Hufn. (*polyodon* L.): Dark Arches.

Native. Meadows, roadsides, copses, waste places, etc.; on *Dactylis glomerata*. Found in all divisions. "Generally abundant" (V.C.H. (1908)).

The moth is probably present in every uncultivated grassy stretch in the county; in some localities, however, it has been found to be much more plentiful than in others. At Dungeness in 1963 for instance, R. E. Scott accounted for a total of 5007 *monoglypha* in his m.v. trap from June 22-September 5, with a maximum of 400 on the night of July 24; which numbers are very remarkable when compared with those for an inland wooded area at Bromley, where in the same year, D. R. M. Long recorded a total of only 219 for the whole season. The strength of the species also appears liable to considerable periodic fluctuation. Thus, Kidner (*Diary*) writing of the Sidcup area for 1909-39, observed that it was "plentiful some years, in others hardly seen at all", and noticed it as particularly scarce in 1935-37 and 1939.

There are indications most years of a partial second generation in September. This was particularly apparent in 1912, when the moth was first noted by Gillett (*Diary*) at Chevening on June 12, and lastly at Gravesend by F. T. Grant on September 28. In 1954, W. L. Rudland saw the insect at light at Wye as late as October 7.

A. R. Kidner (*Diary*) records finding a pupa in his garden at Sidcup, May 29, 1921; and at Well Wood, West Wickham, July 12, 1947, I observed a ♀ *monoglypha* ovipositing in the folds of *D. glomerata* (C.-H.).

VARIATION.—Ab. *infuscata* B. White has been recorded as of occasional occurrence in Kent, mostly from Deal (cf. *Ent. mon. Mag.*, **9**: 163; *Ent. Rec.*, **1**: 128, **2**: 229, **35**: 162; *Entomologist*, **33**: 357; *Proc. S. Lond. ent. nat. Hist. Soc.*, 1904-05: 78, 1925-26: 62, 1933-34: 50). Tutt (*Br. Noct.*, **1**: 73) records ab. *obscura* Th. Mieg. for several Kentish localities, and states that some of his from Deal approach ab. *brunnea* Tutt very closely. Ab. *brunnea* Tutt is recorded (*Ent. mon. Mag.*, **92**: 380; *Proc. S. Lond. ent. nat. Hist. Soc.*, 1949-50: 39, 1955: 37); and the "two brown varieties", Deal sandhills, July 1888 (Tutt, *Young Nat.*, **9**: 164), may refer to this ab.

FIRST RECORD, 1859: Deal (Harding, *Ent. week. Int.*, **6**: 124).

#### A. *epomidion* Haw. (*hepatica* L.): Clouded Brindle.

Native. Woods; foodplant unknown.

1. Lee, one, June 13, 1862; Old Park Wood, three, June 14, 1862; Shooter's Hill, June 24, 1862, five at sugar, July 8, 1890, common at sugar, June 30, 1892 (Fenn, *Diary*). Lewisham, 1885 (Marriott, *Young Nat.*, **7**:

79. Sydenham (Sellon, *Ent. Rec.*, 2: 164). Farnborough, end July 1891, numbers "sitting on the largest grass stems close to the top" (Alderson, *Ent. Rec.*, 2: 181) (Keston (*Wool. Surv.* (1909)), may refer). West Wickham (West, *Ent. Rec.*, 18: 200); two, July 7, 1958, three, June 30-July 8, 1963, in m.v. trap (C.-H.). West Wickham; Hayes (Birchenough, in de Worms, *Lond. Nat.*, 1954: 100). Westcombe Park; Plumstead; Crofton; Bexley (*Wool. Surv.* (1909)). Chislehurst, five, 1908, two, 1910 (S. F. P. Blyth). Sidecup, one at light, July 17, 1936 (A. R. Kidner, *Diary*). Bexley (L. T. Ford). Petts Wood, 1947 (A. M. Swain). St. Mary Cray, two, 1957 (R. G. Chatelain). Blackheath, rare; at m.v., 1959 (A. A. Allen). Lee, three, 1961 (C. G. Bruce). Bromley, 1961 (1), 1962 (9), 1963 (9), all in m.v. trap (D. R. M. Long).

3. Blean Woods, one, May 31, 1866 (Fenn, *Diary*). Bysing Wood (H. C. Huggins). Den Grove, five, June 26-30, 1940, two, July 13, 1941, one, June 22, 1944, several, June 11, 1947; Great Hall Wood, one, June 26, 1946; Broad Oak, one, July 1, 1946; all at sugar (C.-H.).

4. Ickham, one or two at m.v. most years from 1954-59 (D. G. Marsh).

5. Westerham (R. C. Edwards).

6. Greenhithe (Farn MS.). Clay Lane Wood (H. C. Huggins). Pinden (E. J. Hare). Otford, eight at light, 1955-56 (W. B. L. Manley).

6a. Darent Wood, July 1, 1865 (Fenn, *Diary*); fairly common (B. K. West). Mark Oak Wood\*: Chattenden (Chaney (1884-87)). Cobham, June 15, 1912 (F. T. Grant).

7. Wigmore Wood (Chaney (1884-87)). Westwell, June 28, 1934 (Bull, *Diary*); not uncommon (A. G. Peyton, *fide* A. J. L. Bowes); (Scott (1936)); one, June 22, 1953 (de Worms, *Ent. Rec.*, 65: 346). Boxley, 1953 (A. H. Harbottle).

8. Folkestone\* (Ullyett (1880)). Coombe Wood, 1895 (1), 1896 (10), 1898 (2), 1899 (2), 1902 (1), 1903 (1); Poulton, 1903 (1); Walmer, 1905 (1); Chilbolton Elms, 1906 (2); Kearsney, 1901 (1), 1932 (1) (H. D. Stockwell, *Diary*). Atchester Wood, two, July 8-9, 1931; Elham, one, June 19, 1933; Haddling Wood, one, June 29, 1938 (W. E. Busbridge, *Diary*). Stowting; Brook (C. A. W. Duffield). Wye (Scott (1936)). Shepherdswell; Temple Ewell (E. & Y. (1949)). Dover (B. O. C. Gardiner). Bridge, c. 1946 (R. G. Gorer). Waltham, 1951 (J. W. C. Hunt). Petham, one, 1953 (P. B. Wacher).

10. Brasted (R. M. Prideaux). Sevenoaks, June 8, 1919 (Gillett, *Diary*). Knole Park, bred from a larva found under a stone, 1956 (A. A. Allen).

11. Wateringbury (V.C.H. (1908)). Shipborne (P. A. & D. J. A. Buxton coll.). Aylesford (G. A. N. Davis). Sevenoaks Weald, three, June 16-23, 1960 (E. A. Sadler).

12. Ham Street (Scott (1936)); several at sugar, 1948, one at m.v.l., 1952 (C.-H.). Kennington, common, June 26, 1938 (E. Scott). Ashford Town (P. Cue). Willesborough, one, June 26, 1955, two, June 10-11, 1956 (W. L. Rudland); one at light, June 1959, one at light, June 1960 (M. Singleton). Potters Corner, W. Ashford, one at light, 1958 (M. Enfield).

13. Tunbridge Wells, 1892 (Beeching, *Ent. Rec.*, 3: 158); (E. D. Morgan). Goudhurst, two at light, 1951 (W. V. D. Bolt).

14. Tenterden, common (Stainton, *Man.*, 1: 200). Sandhurst, frequent, 1927-54; Benenden, 1924; Rolvenden, 1929 (G. V. Bull, *Diary*).

16. Folkestone (A. M. Morley).

FIRST RECORD, 1857: Tenterden (Stainton, *Man.*, 1: 200),

**A. crenata** Hufn. (**rurea** F.): Clouded-bordered Brindle.

Native. Wood borders, clearings and rides, carr; on grass [and "dock"].

There is no record for Kent of the occurrence of this species in plenty since 1929, and for many years now it appears to have been quite scarce. The statement in V.C.H. (1908) that it is "generally common" is unsupported by the records, though there are indications that it may have been much more numerous in certain years, e.g., in 1863, 1891-92, 1912-13, 1926, 1929.

1. Birch Wood, one (Stephens, *Haust.*, **2**: 178). Lewisham and Lee neighbourhood, five, June 11-July 9, 1861, three, June 6-13, 1862; Old Park Wood, June 14, 1862; Shooters Hill Wood, two, May 16-28, plentiful, June 3, 1863, a few at sugar, June 18, 1864, one, June 19, 1865, two, June 30-July 8, 1890, one, June 18, 1892, common at sugar, June 30, 1892; Courtfleet Wood, Erith, one, June 13, 1884 (Fenn, *Diary*) ("Eltham dist." (Fenn, in *Wool. Surv.* (1909)), is probably based on the Fenn records above). Westcombe Park (Tutt, in *Wool. Surv.* (1909)), Farnborough, abundant (W. Barnes, in *Wool. Surv.* (1909)). Bexley (L. W. Newman, in *Wool. Surv.* (1909)). Abbey Wood (Juby and Hards (1925)). Sidcup, one, June 7, 1931 (A. R. Kidner, *Diary*). West Wickham, 1861 (Huckett, *Ent. week. Int.*, **10**: 115); (West, *Ent. Rec.*, **18**: 200); common in 1926 (S. Wakely); one, in Well Wood, May 22, 1948 (C.-H.); (E. J. Trundell, in de Worms, *Lond. Nat.*, 1954: 99). Orpington, 1957 (L. W. Siggs, in de Worms, *Lond. Nat.*, 1959: 106). Bromley, one, in m.v. trap, July 15, 1962 (D. R. M. Long).
3. B'ean Wood, one, May 31, 1866 (Fenn, *Diary*). Faversham\* (1871, Morris, *Br. Moths*, **2**: 96). Den Grove, one, June 16, 1939 (C.-H.). Sturry, ♂, at m.v.l., April 25, 1951 (D. G. Marsh, *Diary*).
4. Sandwich, one, June 14, one, June 16, 1938 (A. H. Lanfear MS.). Ham Fen, one at sugar, one ovipositing in folds of grass, June 17, 1950, one, July 2, 1955 (C.-H.).
5. Chevening, June 8, 12, 1912, June 7, 10, 11, 18, 20, July 11, 1913, June 6, 1917 (Gillett, *Diary*). Westerham, one, May 25, 1961 (R. C. Edwards). Downe, June 9, 1956 (1) (C.-H.).
6. Greenhithe (Farn MS.). Clay Lane Wood (H. C. Huggins); pupa found May 19, imago emerged May 26, 1919 (F. T. Grant). Otford, five, 1956 (W. B. L. Manley).
- 6a. Darent Wood (see *First Record*); 1844 (Douglas, *Zoologist*, 687); 1861 (Huckett, *Ent. week. Int.*, **10**: 115). Chattenden, one, July 13, 1875 (Fenn, *Diary*). Mark Oak Wood\* (Chaney (1884-87)). Cobham, June 15, 1912 (F. T. Grant).
7. Wigmore Wood, not uncommon at sugar (Chaney (1884-87)). Westwell, June 28, 1934 (G. V. Bull, *Diary*); Scott (1950); one, June 22, 1952 (E. Scott). Boxley, 1953 (A. H. Harbottle).

8. Folkestone\*, at sugar (Knaggs (1870)); common at sugar, July 6, 1912 (Rait-Smith, *Ent. Rec.*, **25**: 174). St. Radigunds, two, June 9, one, June 19, 1908; Coombe Wood, one, June 16, 1909 (P. A. Cardew, *Diary*). River 1938; Shepherdswell, one, 1947 (E. & Y. (1949)). Dover, one, 1945, one, 1952 (B. O. C. Gardiner). Elham, three at sugar, June 8, 1924, one at sugar, June 12, 1926, two at sugar, June 17, 1933; Atchester Wood, one, June 21, 1930 (W. E. Busbridge, *Diary*). Reinden Wood, ♀, at dusk, June 10, ♀, at sugar, June 17, 1929; Folkestone Warren, ♂, at sugar, June 20, 1929

(A. M. Morley). Wye, one, June 1, 1930 (E. J. Hare); June 10, 1932 (J. H. B. Lowe); one, June 11, 1956 (W. L. Rudland); at the Crown, June 12, 1931, July 4, 1946 (G. V. Bull, *Diary*). Brook (Scott (1936)); one, 1953 (E. Scott); May 27, 1960 (R. F. Bretherton).

9. Margate, two, 1914, one, 1919 (H. G. Gomm, *Diary*).

10. Ide Hill, two, May 27, 1939 (W. E. Busbridge, *Diary*). Goodley Stock, one, July 6, 1956 (C.-H.).

11. "Barming, 1886, H. Elgar", one so-labelled; "Wateringbury". several so-labelled; all in Maidstone Mus. (C.-H.). Hoads Wood, June 12, 1926 (G. V. Bull, *Diary*); one, c. 1953 (P. Cue). Sevenoaks Weald, one, May 31, 1959, one, May 25, 1960; both at m.v.l. (E. A. Sadler).

12. Ham Street (Scott (1936)). Orlestone Woods, June 2, 1956 (R. F. Bretherton). Ashford Town, in garden, June 11, 20, 1956, and several times since at both m.v.l. and sugar up to 1961, at about one or two per annum (P. Cue, in litt., 1962). Willesborough, one, in m.v. trap, July 2, 1962 (M. Singleton).

13. Tunbridge Wells, very common at sugar, 1891. "I took one black one" (Beeching, *Ent. Rec.*, 2: 229); "swarming", 1892 (Beeching, *Ent. Rec.*, 3: 158); Queen's Road, Tunbridge Wells (E. D. Morgan). Goudhurst, one, May 10, 1928, one, June 14, 1929 (G. V. Bull); four at light, 1952, and several others in other years (W. V. D. Bolt). [Tunbridge Wells district, "larva on grasses and dock" (Morgan, *Lepidoptera of Tunbridge Wells MS.*), may refer to Sussex (C.-H.)].

14. Sandhurst, May 18, 1928, June 13-14, 1929 (several), June 23, 1931, June 7, 1933, June 26, 1938, June 20, 1941, June 20, 1943; Rovenden, June 12, 1929 (G. V. Bull, *Diary*). Tenterden, 1960 (C. G. Orpin).

16. Folkestone Town, one at m.v.l., June 1951 (A. G. Riddell, teste A. M. Morley); one, worn ♂, in m.v. trap, May 27, 1957 (A. M. Morley).

VARIATION.—Dark forms, broadly speaking, seem to occur everywhere with the type (*sens. lat.*), and about as often, and were known to Stephens (*Haust.*, 2: 178) who records them from Birch and Darenth Woods. Of ab. *ochrea* Tutt, Tutt (*Br. Noct.*, 1: 78) says: "I have captured it in many localities in Kent".

FIRST RECORD, 1829: "I have frequently captured it at Darenth" (Stephens, *Haust.*, 2: 177).

#### **A. sordens** Hufn. (**basilinea** Schiff.): Rustic Shoulder-knot.

Native. Lanesides, meadows, waste places, etc.; on *Dactylis glomerata*. Found in all divisions, and apparently fairly generally distributed throughout the county. "Generally common" (V.C.H. (1908)).

The moth has been observed ovipositing on *D. glomerata* on Dartford Heath by B. K. West. The larva has been taken on "grass", at Chevening, March 7, 1914, by F. Gillett (*Diary*); and on "grass in hedgerows", at Gravesend, March 13, 1913, by F. T. Grant. I have occasionally dug up the pupa in my garden at West Wickham in the spring, and reared the moth (C.-H.).

VARIATION.—Tutt (*Br. Noct.*, 1: 85) describes ab. *unicolor*, holotype, Westcombe Park, 1886; Shaw (*Trans. Cy. Lond. ent. Hist. Soc.*, 1906: 12) exhibited one from Wye, apparently referable to ab. *pallida* Tutt; and in R.C.K. is an example of ab. *cinerascens* Tutt, taken by E. Scott, at Wye in 1932.

FIRST RECORD, 1861: Lewisham (Fenn, *Diary*, 17.iv.1861).

**A. unanimis** Hubn.: Small Clouded Brindle.

Native. Marshes, damp woods, etc.; "on Ribbon grass and other grasses".

1. Lee, one at light, June 9, 1861 (Fenn, *Diary*); two, May 24, 1960, one, June 16, 1962; all at m.v.l. (C. G. Bruce). Lewisham, one, 1882 (R. Adkin, in *Wool. Surv.* (1909)). Westcombe Park (J. W. Tutt, in *Wool. Surv.* (1909)). Mottingham (C. Fenn, in *Wool. Surv.* (1909)) Eltham (V.C.H. (1908)), may refer). Orpington, 1956-57 (L. W. Siggs, in *de Worms, Lond. Nat.*, 1959: 105); one fresh specimen in m.v. trap, June 4, 1963, one, 1964 (R. G. Chatelain).

2. Dartford Marshes, two, June 4, 1864 (Fenn, *Diary*). Greenwich Marshes, five, June 19, 1862, two, June 7, 1864 (Fenn, *Diary*); "was formerly common on the marshes; I have only seen two in the last ten years" (Fenn, *Ent. Rec.*, 6: 231). Plumstead Marshes (J. W. Tutt, in Buckell and Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1899: 68). Denton Marshes, larva; Chalk and Higham Marshes (F. T. Grant). Gravesend; Faversham (H. C. Huggins). Aylesford, one, 1953 (G. A. N. Davis).

3. Broad Oak, one, May 30, 1952 (C.-H.).

4. Deal (V.C.H. (1908)) Sandwich, one at sugar, June 12, 1946 (E. & Y. (1949)); two, June 8-14, 1954 (W. D. Bowden). Ham Fen, three worn specimens, July 2, 1955; Westbere, three at sugar, June 24, 1946 (C.-H.). Minster Marshes, two at sugar, June 18-21, 1951 (W. D. Bowden). Fordwich, "three larvae, April 4, under willow bark in web and grass cocoons ready to pupate, pupated April 8, two imagines emerged May 24, 1923" (H. G. Gomm, *Diary*).

5. Chevening, June 27, 30, July 1, 1912, June 11, 1913 (Gillett, *Diary*).

6. Greenhithe (Farn MS.). Pinden, one, June 17, 1954 (E. J. Hare coll.)†. Otford, one, June 24, 1955 (W. B. L. Manley).

9. Margate, one, June 4, 1930 (H. G. Gomm, *Diary*).

12. Ham Street, at sugar (G. V. Bull); May 30-31, 1958 (*de Worms, Entomologist*, 92: 69-70); at m.v.l., in Orlestone Woods, two, June 10, 1960, one, June 9, 1961 (B. F. Skinner). Chartham, four, 1952-53 (P. B. Wacher). Wye, two, June 19-22, 1953, one, July 7, 1955, one, June 10, 1956 (W. L. Rudland). Ashford, June 1955 (P. Cue, in Scott, *Trans. K. Fld. Cl.*, 2: 22). Willesborough, one, in m.v. trap, 1961, one, in m.v. trap, June 21, 1962 (M. Singleton).

13. Tunbridge Wells.—"Cripp's Nursery", A. L. H. Townsend; Queen's Road; larva on Ribbon grass and other grasses (Morgan, *Lepidoptera of Tunbridge Wells MS.*).

14. Knock Wood c. 1855 (S. C. Tress Beale, *Diary*). Tenterden, common (Stainton, *Man.*, 2: 211). Sandhurst, at sugar (G. V. Bull).

15. Dungeness, one at sugar, July 28, 1950 (A. M. Morley).

16. Folkestone, singletons, 1930, 1948, 1952-54, 1957, 1958; four, 1956 (A. M. Morley).

VARIATION.—The two specimens taken by C. G. Bruce at Lee, in 1960 show a decided melanic tendency (C.-H.).

FIRST (PUBLISHED) RECORD, 1857: Tenterden (Stainton, *Man.*, 2: 211).

[(**A. pabularicula** Brahm (**connexa** Borkh.): Union Rustic.

A single very doubtful record, probably based upon misidentification.

8. Folkestone district\*.—The species is listed for here by Ulliyett (1880,

*Rambles of a Naturalist Round Folkestone*, 142), but without details, and is unconfirmed from any other source.)]

**A. oblonga** Haw. (**abjecta** Hubn.): Crescent Striped.

Native. Salt-marshes, tidal river-banks, salt-water ditches and creeks; foodplant unknown. Probably casual in 3, 6, 6a, 7, 8, 11.

2. Gravesend (Stainton, *Man.*); "Scott was telling me that he received about a week ago a couple of larvae of *Mamestra abjecta* taken under the stones on the river bank near Gravesend" (Fenn, *Diary*, 3.vi.1865), two moths reared July 4, 1865 (*idem*, 4.vii.1865); a series at sugar, 1868 (Button, *Entomologist*, 4: 115, 129); several at sugar, July 10, 1869 (Miller & Jones, *Ent. Mon. Mag.*, 6: 114); seventeen at sugar, at the fort below Gravesend, July 8, 11, 14, 1865 (Fenn, *Lep. Data MS.*); larvae found by S. Stevens (Buckler, *Ent. mon. Mag.*, 16: 21). Shorne Mead (H. C. Huggins). North Kent\* [Gravesend?], July 1875 (Tugwell, *Entomologist*, 8: 292). Greenwich Marshes, July 16, 1886 (Fenn, *Diary*). Plumstead Marshes (J. W. Tutt, in Buckell and Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1899: 68). Dartford Marshes, taken by Packman and Marshall (1890) (Fenn, *Lep. Data MS.*); two ♂♂ July 20, ♂, July 23, ♂♀, July 26, 1950 (B. K. West). Greenhithe, in unusual numbers in light trap, 1900 (Farn, *Ent. mon. Mag.*, 36: 259). New Brompton near Chatham, one, July 12, 1872 (Chaney (1884-87)). Strood (Ovenden, *Ent. Rec.*, 16: 294, 21: 32). Rochester dist., July 14-23, 1905 (Ovenden, *Ent. Rec.*, 18: 18). Sheppey, at sugar, 1872 (Walker, *Ent. mon. Mag.*, 9: 163); 1950-51 (E. J. Hare). Near Queenborough, by beating thatch, 1870; 1871 (Walker, *Ent. mon. Mag.*, 8: 185). Funton and Chetney Marshes (H. C. Huggins). Gillingham (Morris, *Br. Moths.*, 2: 107). Isle of Grain, June 29-July 8, 1908 (Ovenden, *Ent. Rec.*, 21: 32). Stoke Salttings, two, August 1, 1962, netted with aid of Coleman lamp, flying alongside creeks (C.-H.).

3. Herne Bay, one dead in empty house, 1929 (A. J. L. Bowes).

4. Deal, one, 1860 (Harding, *Ent. week. Int.*, 8: 155); one at sugar, July 30, 1892 (Fenn, *Ent. Rec.*, 3: 285). Sandwich, August 31, 1921, very worn, in Hope Dept. (R. F. Bretherton); at sugar, by A. G. Peyton (A. J. L. Bowes); one, July 25, 1946; three, August 1, 1948; three, at marram, June 30, four, July 22, one, August 5, 1950. All at sugar unless otherwise stated (C.-H.); ten, early July 1950 (G. H. Youden). Reculver, one, at sugar, August 6, 1945 (C.-H.).

6. Pinden, one, July 23, 1955 (E. J. Hare).

6a. Darenth (see *First Record*). Chattenden, "sometimes at sugar" (Fenn, *Lep. Data MS.*).

7. Wigmore Wood, one, July 30, 1869 (Chaney (1884-87)).

8. Folkestone\*, at sugar, scarce (Knaggs (1870)).

11. East Malling, two at m.v.l., 1952 (G. A. N. Davis).

15. Littlestone, one, July 7, 1933 (A. M. Morley). Dungeness, one, mid-July 1950 (G. H. Youden); one, July 17, 1964 (R. G. Chatelain).

16. Folkestone, one, at m.v.l., June 26, 1956, by R. W. Fawthrop (A. M. Morley).

VARIATION.—Tutt (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1888: 44) remarked that at Greenwich, he had taken several "which were perfectly black"; and (in *Br. Noct.*, 1: 110) recorded the following abs.:—*unicolor* Tutt, Strood; *nigrodistincta* Tutt, Greenwich, and Cliffe; *fribolus* Boisd., near Cliffe, and Deal. I appear to have all the above named abs. from

Sandwich, in addition to typical *oblonga* Haw. (C.-H.).

FIRST RECORD, 1829: One in 1819, "picked up by a boy at Darenth Wood" (Stephens, *Haust.*, 2: 194).

**A. infesta** Ochs. (**sordida** Borkh.): Large Nutmeg.

Native. Lane-sides, grassy places, etc.; foodplant unknown. Recorded from all divisions, except 10 (but doubtless occurs). "Generally common" (V.C.H. (1908)). In north-west Kent, "formerly generally distributed, now rare" (*Wool. Surv.* (1909)). Appears nowadays to be rather well distributed throughout Kent, and fairly plentiful.

VARIATION.—Tutt (*Br. Noct.*, 1: 112) states that *anceps* Hübn. and *sordida* Borkh. are much the commonest forms in Kent, and furthermore, that *anceps* is much more abundant than *sordida*; he also records ab. *renardii* Boisd., from Deal, Sandwich and Strood; and ab. *ochracea* Tutt from Deal and Strood. My examples from E. Kent (Canterbury, Sandwich, Ashford) are mostly appreciably paler than those from W. Kent (West Wickham); all my specimens were taken since 1945 (C.-H.).

FIRST RECORD, 1844: *Mamestra aliena*, Darenth Wood (Douglas, *Zoologist*, 687).

**A. furva** Schiff.: Confused.

Native. Maritime chalk cliffs; foodplant unknown. Probably casual in 16.

8. Dover (see First Record); July 1883 (Coverdale, *Entomologist*, 16: 221). Dover Cliffs, August 10, 1932, June 21, 1933 (J. H. B. Lowe). Kingsdown, one at rest on scabious head at night, July 17, 1889 (Fenn, *Diary*). Kearsney, one on flowers, July 23, 1901 (H. D. Stockwell, *Diary*). "Not uncommon at sugar in the latter part of July on the cliffs on both sides of Dover" (E. & Y. (1949)). Near Shakespeare Cliff, four at sugar, July 14, 1951 (G. H. Youden). Folkestone Warren.—At flowers of *Echium* (Knaggs (1870)); 1882 (Salwey, *Entomologist*, 15: 198); scarce (Morley (1931)); Capel-le-Ferne, three in good condition at light, July 11, 1939, on the cliff path leading down to the Warren (C.-H.).

16. Folkestone Town, one at m.v.l., August 3, 1956, by R. W. Fawthrop (A. M. Morley).

[(It is very doubtful if the record for "Kent?" [Gravesend] (in *Ent. Ann.*, 1869: 134) refers to this species.)]

FIRST RECORD, 1829: "I have found it near Dover" (Stephens, *Haust.*, 2: 191).

**A. remissa** Hübn. (**obscura** Haw.): Dusky Brocade.

Native. Marshes, open woods, etc.; foodplant unknown. Recorded from all divisions. "Generally common" (V.C.H. (1908)).

The moth appears to be of fairly frequent occurrence throughout the county, but there are few instances on record of its having been observed really plentifully. Fenn (*Diary*) wrote of it as "common at sugar", at Shooters Hill, June 30, 1892; B. K. West found it in considerable numbers on Dartford Heath in 1935, but has hardly seen it since; and W. L. Rudland recorded a total of 123 in his m.v. trap at Willesborough, between June 15 and July 21, 1951, with maximum (16) on July 7. Being accustomed to see it only in small numbers, I was surprised at Ham Fen on the night of July 2, 1955, to observe some 40 examples of this species; most of which

were on flowering rush, where it was by far the commonest moth (C.-H.).

VARIATION.—The majority of Kentish specimens may be referred to ab. *gemina* Hübn.; but what I judge to be ab. *rufescens* Tutt and nymotypical *remissa* Hübn., are of rather frequent occurrence (C.-H.).

FIRST RECORD, 1829: Darent Wood (Stephens, *Hast.*, 2: 182).

**A. scolopacina** Esp.: Slender Brindle.

Native. Woods, copses [on *Brachypodium sylvatica*].

1. Lewisham, one, 1860 (Fenn, *Ent. week. Int.*, 9: 59). Bexley, larvae (Shaw, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1904: 15, 1905: 9); (L. T. Ford); at m.v.l., one, July 6, one July 12, 1952 (A. Heselden). Sidcup, one, August 11, 1909 (A. R. Kidner). Lessness Woods (Newell, *Trans. Plumstead & Dist. nat. Hist. Soc.*, 1931-32: 12). Petts Wood, two, 1948, two, 1949 (E. Evans). St. Paul's Cray Common, two; Langley Park, Bromley, two (W. A. Cope). West Wickham, several at m.v.l., 1951, 1953 (E. E. J. Trundell); several in m.v. trap, 1963 (C.-H.). Bromley, 1960 (2), 1962 (2), 1963 (6) (D. R. M. Long).

3. Canterbury\*, seven bred 1906 (F. Small coll.). Bysing Wood, a few beaten out (H. C. Huggins). Den Grove, one, July 17, 1938, one, June 30, 1940, one, July 19, 1946; Broad Oak, one, July 29, 1940 (C.-H.).

5. High Elms, Farnborough, three at m.v.l., August 6, 1961 (B. F. Skinner); four, July 26, 1964 (R. G. Chatelain).

6. Greenhithe\* (Farn MS.). Clay Lane Wood, a few beaten out (H. C. Huggins). Otford, two, 1955-56 (W. B. L. Manley); a larva on grass, believed to be *B. sylvatica*, April 30, 1961, and reared (Wakely, *Ent. Rec.*, 74: 165).

7. Westwell, August 9, 1960 (E. Scott, *Diary*).

8. Near Whitfield, several at sugar, July 1938 (E. & Y. (1949); *Folkestone nat. Hist. Soc.*, per *Entomologist*, 72: 127).

11. Oaken Wood, Barming, one, by H. Elgar, in Maidstone Mus. (C.-H.) ("Near Maidstone" (V.C.H. (1908)), may refer to this specimen). Hoads Wood, one, 1953 (P. Cue). Aylesford, two, 1953 (G. A. N. Davis).

12. Ham Street, two, July 16, 1935 (F. H. Lees); Long Rope, two at m.v.l., July 20-31, 1951 (C.-H.); Faggs Wood, three, July 31, 1964 (R. G. Chatelain). Brook, one, 1954 (C. A. W. Duffield, *fide* E. Scott). Willesborough, one, July 14, 1956 (W. L. Rudland).

14. Sandhurst, one, July 24, 1950 (G. V. Bull).

16. Saltwood Castle, one (1862) (McLachlan, *Zoologist*, 8211) ("Hythe" and "Saltwood" (Barrett, *Br. Lep.*, 4: 379), and "Folkestone" (V.C.H. (1908), probably all refer)). Sandgate, three, 1960, two, 1961 (N. Reay-Jones).

VARIATION.—In R.C.K., are seventeen *scolopacina*, from Bexley, including eight referred to as ab. *unicolor-brunnea* Wagner.

My specimens from West Wickham (W. Kent) are appreciably darker (more greyish) than those from Broad Oak, Den Grove and Ham Street (all in E. Kent) (C.-H.).

FIRST RECORD, 1860: Lewisham (Fenn, *Ent. week. Int.*, 9: 59).

**A. secalis** L. (*didyma* Esp.): Common Rustic.

Native. Rough grassy places, etc.; on *Festuca arundinacea*. Recorded from all divisions, except 10 (but doubtless occurs). "Generally common and often abundant" (V.C.H. (1908)).

The larva has been taken by G. Haggett on *F. arundinacea* on the *Arenostola morrisii* Dale ground in Folkestone, c. 1955 (G. Haggett).

VARIATION.—Extremely variable. The material available, however, is insufficient for a proper assessment of the relative frequency of the various forms (C.-H.).

Tutt (*Br. Noct.*, 1: 95) records ab. *grisea-flavo* Tutt, one, Deal; and Turner (*Supplement to Tutt's Br. Noct.*, 1: 228) describes ab. *struvei-excessa*, holotype ♀, from Kingsgate.

FIRST RECORD, 1829: Birch Wood (Stephens, *Haust.*, 3: 8).

**A. ophiogramma** Esp.: Double-lobed.

Native. Gardens, marshes, brooks; on Ribbon Grass [and "Arundo" spp.]. "Common in some places, but generally rare" (V.C.H. (1908)).

1. Lee, July 16, 1861 (Fenn, *Ent. week. Int.*, 10: 196); July 13, 1862, July 6, 1874 (Fenn, *Diary*); 1899, 1902 (Carr, *Entomologist*, 33: 48, 36: 24); (Browne, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1903: 41). Brockley, c. 1888 (Turner, *Ent. Rec.*, 1: 349); one (West, *Ent. Rec.*, 18: 201). Farnborough, one, 1894 (Alderson, *Ent. Rec.*, 7: 183); (W. Barnes, in *Wool. Surv.* (1909)). Blackheath; Westcombe Park (J. W. Tutt, in *Wool. Surv.* (1909)). Bexley (L. W. Newman, in *Wool. Surv.* (1909)); (L. T. Ford). Sidcup, larvae plentiful on Ribbon Grass (Hickling, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1890: 38). Eltham (V.C.H. (1908)). Orpington, 1948 (L. W. Siggs). Petts Wood, one, 1950 (E. Evans). St. Mary Cray, one, 1956 (R. G. Chatelain).
2. Near Woolwich (Stephens, *Haust.*, 3: 11). Deptford Marshes, 1843-44 (Bedell, *Zoologist*, 1007). "In all the marshes around London" (Stainton, *Man.*, 1: 211). Greenwich Marshes, larvae "said to feed on the roots and stems of species of *Arundo*" (Williams, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1887: 64). Strood, about 12 larvae, 1904 (Ovenden, *Ent. Rec.*, 16: 294). Rochester district, 1905 (Ovenden, *Ent. Rec.*, 18: 18). Dartford Marshes, ♂ at honeydew, July 9, 1950; one, flying, July 11, 1963 (B. K. West).
4. Ham Fen, one, July 25, 1891, a few, 1892 (Fenn, *Ent. Rec.*, 2: 203, 3: 285); one, July 9, 1960 (C.-H.). Sandwich, August 5, 1933 (de Worms, *Entomologist*, 67: 103); at sugar, August 20, 1936 (A. J. L. Bowes); one, 1954 (B. K. West); three, at light, July 5, 1957 (R. F. Bretherton). Westbere, about sixty flying and at rush flowers, July 23-24, 1946; a few becoming worn, August 3, 1946 (C.-H.); about 20, July 16, 1953 (E. J. Hare). Ickham, several annually, 1954-64 (D. G. Marsh). Minster Marshes, one, July 24, 1951 (W. D. Bowden).
5. Halstead, 1925 (Frampton, *Entomologist*, 59: 173).
6. Greenhithe\* (Farn MS.). Gravesend (H. C. Huggins); July 11, 14, 1911; July 11, 24, 1913 (F. T. Grant). Pinden, one, c. 1954 (E. J. Hare). Otford, a few, 1955-56 (W. B. L. Manley).
8. Dover, several (Younen, *Folkestone nat. Hist. Soc.*, per *Entomologist*, 72: 171, and *Ent. Rec.*, 51: 12; E. & Y. (1949)).
9. Ramsgate\* (Willson, *Entomologist*, 23: 140).
10. Sevenoaks, three, August 3-5, 1903 (Holmes, *Entomologist*, 36: 268); June 27, 1920 (Gillett, *Diary*).
11. Tonbridge district, three, 1911 (Rattray, *Entomologist*, 45: 80). Aylesford, 1955 (Davis, *Bull. K.Fld.Cl.*, 1: 6).
12. Brook\*, c. 1953 (C. A. W. Duffield, *fide* E. Scott). Charlham, one, (P. B. Wacher). Wye, one, August 6, 1953, two, August 4-23, 1954, one, September 13, 1955, two, July 24-August 8, 1956; Willesborough, one, August 6, 1955, three, July 27-August 11, 1956 (W. L. Rudland). West Ashford, one in m.v. trap, July 24, 1963 (M. Enfield). Ashford, 1960 (P. Cue).

13. Tunbridge Wells district (Phipps, *Entomologist*, **31**: 267). Tunbridge Wells, scarce, in Frant and Queens Roads (Morgan, *Lepidoptera of Tunbridge Wells MS.*). Goudhurst, one at light, 1953 (W. V. D. Bolt).

14. Tenterden, 1960 (C. G. Orpin).

16. Folkestone Town, 1928-32 (25), 1933 (1), 1938 (1), singletons at m.v.l., 1953-58 except 1955; one by A. Riddell, c. 1935, below the Leas (Morley (1931); A. M. Morley *in litt.*). Sandgate, one, 1961, (N. Reay-Jones).

VARIATION.—Ab. *moerens* Stgr., one, and another transitional to it, Westbere, July 24, 1946 (C.-H.).

FIRST RECORD, 1829: Near Woolwich (Stephens, *Haust*, **3**: 11).

**A. ypsilon Schiff. (*fissipuncta* Haw.): Dingy Shears.**

Native. Marshes, etc.; on crack willow, poplar. V.C.H. (1908) calls it "common", but gives three localities only, all in the extreme north-west of the county.

1. Sydenham (Sellon, *Ent. Rec.*, **2**: 164). Blackheath Park, larvae at roots of poplars (West, *Ent. Rec.*, **18**: 229). Eltham (V.C.H. (1908)). Sidcup, one at light July 7, 1912, one, July 12, 1930, one, July 22, 1935; Bexley-by-Cray, larvae, May 17, 1914 (A. R. Kidner, *Diary*). Chislehurst (S. F. P. Blyth); larva on crack willow (*Salix fragilis*) (D. R. M. Long). Orpington (R. G. Chatelain). West Wickham, 1950, 1953; Hayes (de Worms, *Lond. Nat.*, 1954: 101). Blackheath, one at m.v.l., 1959 (A. A. Allen). Bromley, one, June 30, 1961 (D. R. M. Long). West Wickham, one, July 19, one, July 21, 1963 (R. Birchenough).

2. Greenwich Marshes, several, flying high, above willows, July 15, 1861 (Jones, *Ent. week. Int.*, **10**: 187; Fenn, *Diary*); eleven taken, many more seen, July 4, 1861 (Fenn, *Diary*). Greenhithe\* (Farn MS.). Greenwich; Abbey Wood Marshes (V.C.H. (1908)). Snodland, June 27, 1863 (Chaney (1883-87)). Northfleet; Nagden near Faversham (H. C. Huggins). Plumstead, larvae taken by J. Juby on poplar, reared 1931 by A. L. Goodson (A. L. Goodson).

3. Whitstable, one (P. F. Harris). Broad Oak, one, July 20, 1946, one, August 5, 1951, both at light (C.-H.).

4. Deal, August 30, 1888, one, August 6, 1889 (Fenn, *Diary*). Minster, four, 1901 (J. P. Barrett coll.). Reculver, at sugar on willows, July 15, 20, 21, 1936; Sandwich, July 26, 1936; at sugar, August 8, 1938 (A. J. L. Bowes).

5. Westerham (R. C. Edwards).

8. Folkestone\* (Ullyett (1880)). Dover, several, 1901 (H. D. Stockwell coll.); 1944-45, 1952 (B. O. C. Gardiner).

9. Manston, one, bred July 24, 1918 (J. W. C. Hunt).

11. Sevenoaks Weald, one, June 30, 1960 (E. A. Sadler).

12. Mersham (Scott (1936)). Ashford (Scott (1936)); one, 1955 (P. Cue). Wye, larva, imago reared (C. A. W. Duffield). Charltham (P. B. Wacher). Hothfield (Scott (1964)).

13. Tunbridge Wells district, fairly common (Knipe (1916); Given (1946)); Tunbridge Wells, in London Road (Morgan, *Lepidoptera of Tunbridge Wells MS.*).

14. Sandhurst, June 26, 1932, July 17, 1933, July 15, 1936, July 6, 18, 1937, September 18, 1950, June 28, July 9, 1952, July 6, 10, 1953 (G. V. Bull, *Diary*). Hawkhurst, one, 1952 (B. G. Chatfield).

15. Hythe\*, one, August 6, 1906, in Br. Mus., Nat. Hist., S. Kensington (C.-H.). West Hythe\*, six larvae under bark of willows, May 30, 1930 (Morley (1931); A. M. Morley, *in litt.*). Dymchurch, six, 1952 (Wakely, *Ent. Rec.*, 65: 44). Greatstone, one, August 1960 (D. Youngs).

16. Folkestone Town, at m.v.l., four, 1952, singletons, 1953-57 (A. M. Morley).

VARIATION.—Tutt (*Br. Noct.*, 2: 160) records abs. *corticea* Esp., and *nigrescens* Tutt, from Greenwich and Deal; ab. *variegata* Tutt, from Sandwich and Deal, also (in *Wool. Surv.* (1909)) from Greenwich.

The following named abs. are in R.C.K.:—*cinerea* Heinrich, Deal, one; *corticea* Esp., Deal, three, Manor Park, one; *nigrescens* Tutt, Plumstead, bred by A. L. Goodson.

FIRST (PUBLISHED) RECORD, 1861: Greenwich Marshes (Jones, *Ent. week. Int.*, 10: 187).

### **Eremobia ochroleuca** Schiff.: Dusky Sallow.

Native. Downs, grassy banks, waysides, etc.; on *Briza media*. Mainly coastal, with a decided preference for chalky soils. Frequent in 6, 8, 9. Appears to have recently extended its range into div. 1. "Scarce" (V.C.H. (1908)). Could not now be called scarce, but the records indicate that within recent times it may have become generally more plentiful.

Obs.—Deal, imago on marjoram flowers, 1860 (Fenn, *Ent. week. Int.*, 9: 60). St. Margaret's Bay, August 14, 1908, "got 3 good ones and left  $\frac{1}{2}$  dozen worn on flowers, being no sun they were all *under* the flowers" (P. A. Cardew, *Diary*). Tilmanstone, August 5, 1950, late afternoon on short stretch of roadside, counted some 15 imagines in about 5 minutes, one on a scabious head, the others on knapweed heads; Otford, June 21, 1959, two larvae feeding on *B. media* (C.-H.).

1. Joydens Wood, 1947 (Hyatt, in de Worms, *Lond. Nat.*, 1954: 92). Petts Wood, one, 1949 (E. Evans); 1952 (A. M. Swain). West Wickham, 1951 (E. E. J. Trundell). Abbey Wood, one on fence, 1952 (A. J. Showler). Bexley, one, August 27, one, September 11, 1952; Welling, two, August 14, 1952 (A. Heselden). Farningham Woods, one, July 27, 1962 (R. G. Chate-lain).

2. Near Sheerness, common, 1871 (Walker, *Ent. mon. Mag.*, 8: 185). Sheppey (Fletcher, *Entomologist*, 34: 371); eight, 1904-07, by J. J. Jacobs, in E. Goodwin coll. (C.-H.); August 1907, 1913 (9), in J. J. Walker coll. in Hope Dept. (R. F. Bretherton). Kingsferry, six larvae on grass heads, June 26, 1949 (C.-H.). Dartford, ♀, July 20, 1949 (B. K. West). Isle of Grain, one, August 13, 1958 (R. Birchenough).

3. Herne Bay, at teasel and other flowers (Vaughan, *teste Knaggs*, *Ent. Ann.*, 1868: 116); locally common, 1934-35, 1940 (A. J. L. Bowes); Eddington, plentiful at light, August 5-8, 1950, numerous at m.v.l., August 3, 1951 (D. G. Marsh, *Diary*). Tankerton, one, 1912 (F. T. Grant). Broad Oak, odd imagines at buddleia, 1936, 1948, 1950 (C.-H.). Whitstable (P. F. Harris).

4. Ebbsfleet, two, 1915; Reculver, one, 1923 (H. G. Gomm, *Diary*). Sandwich, several at marram, 1946, 1950 (C.-H.); one, by day on *Brassica* flowers, 1953 (W. L. Rudland). Ickham, 1954-59, quite plentiful, "some years on good evenings, several at light in one night" (D. G. Marsh, *in litt.*).

5. Cudham, one, 1885 (Frohawk, *Entomologist*, 18: 258). Chelsfield, 1953 (A. M. Swain).

6a. Darenth Wood, 1875, exhibited by C. & S. Channon, at *S. Lond. ent. nat. Hist. Soc. (Ent. mon. Mag.)*, 12: 167); on flowers of field-scabious (Carrington, *Entomologist*, 12: 209); c. 1947 (Owen, in de Worms, loc. cit.).

7. Darland Hill; Snowledge; Luton; Burham; Detling; Boxley (Chaney, 1884-87). Sittingbourne; Faversham (H. C. Huggins). Westwell, uncommon but regular (E. Scott). Boxley (A. H. Harbottle).

11. Maidstone\* (*V.C.H.* (1908)). Aylesford, four, 1953-54 (G. A. N. Davis).

12. Brook\* (C. A. W. Duffield). Charlham, six, c. 1953 (P. B. Wacher). Ashford Golfcourse (P. Cue). Willesborough, three, 1954-56; Wye, four, 1953-56 (W. L. Rudland). West Ashford, one, 1961 (M. Enfield). Willesborough, one, 1961 (D. Youngs).

15. Dymchurch (Wakely, *Ent. Rec.*, 65: 43). Dungeness, one, July 28, 1953 (R. C. Edwards *fide* A. M. Morley); one, in m.v. trap, August 9, 1962 (R. E. Scott); July 22, 1963 (C. G. Bruce).

16. Folkestone Town (Morley, *Ent. Rec.*, 64: 171).

FIRST RECORD, 1829: "Found abundantly . . . on the hills near Dover" (Stephens, *Haust.*, 3: 96).

#### ***Procus strigilis* Clerck, *P. latruncula* Schiff., and *P. versicolor* Borkh.**

In 1907, Dampf (*Schrift. Phys. ock. Gez. Konigs.*, 75) first differentiated *strigilis* and *latruncula* as two species by their genitalia, and in the same year, Petersen (*Russe d'Ent.*, 7: 206) confirmed the discovery in greater detail; but it was not until some 30 years later that the distinction was generally recognised, at least in Britain. The third species, *versicolor*, was first separated as specifically distinct (in 1932) by Heydemann (*Ent. Zeit.*, 46: 21). Reference may be made to Tams (*Amat Ent.*, 5 (38): 4, 6) and Classey (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1952-53: 66-67) for useful guides to the separation of all three on genitalic characters; and to Draudt-Seitz (*Suppl. Pal. Noct.*, 159) for a fairly detailed description of the alar dissimilarities. As all three species are very variable, however, the safest means of determination is by genitalia, which in the case of the ♂♂ is comparatively simple.

It is only natural that much confusion should have resulted from the difficulties that have arisen over differentiation, both genetically and owing to the remarkable parallel variation of the alar facies in all three species. Hence, it follows that there must exist numerous records under *strigilis* that refer to *latruncula*, many specimens standing as *latruncula* in collections which belong to *strigilis* and vice versa, and lastly, the likelihood of the occasional *versicolor* doing duty for one or the other species. It is unfortunate therefore that lack of time has prevented me from undertaking a proper investigation of the records, and of examining closely the bulk of set material, so that a true picture of the relative frequency and comparative distribution of all three still remains a desideratum. Under the circumstances I have deemed it advisable to give only records based on genitalic determination, rejecting all others except in a very few special cases. It may be said, however, that from the cursory examination of a vast number of Kentish specimens, the overall impression gained is that *strigilis* and *latruncula* appear plentiful and generally distributed throughout the county, but that *versicolor* is local and very scarce.

***Procus strigilis* Clerck: Marbled Minor.**

Native. Waste places, etc.; "in roots of ribbon grass".

Note: Recorded from all divisions, but as yet only confirmed from the meagre list of localities hereunder, which serves as a preliminary measure and is not of course intended as any indication of its frequency and distribution in the county.

1. Plumstead, ♀, 1901, J. Butterfield, gen. det. W. H. T. Tams and H. M. Edelsten (Br. Mus., S. Kensington). Bexley, several, June 13, 1952, gen. det. A. Heselden (A. Heselden). West Wickham, two, July 1963, gen. det. C.-H. (C.-H.).
2. Sittingbourne, one, June 20, 1953, gen. det. C.-H. (C.-H.).
3. Broad Oak, one, June 23, 1946, six, May 30, one, June 14, four, June 22, 1952, all gen. det. C.-H.; two, June 16, one, June 22, 1952, gen. det. D. S. Fletcher (C.-H.).
4. Sandwich, gen. det. G. H. Youden (G. H. Youden).
5. Chevening—♀, "Shootfield, 12.6.1913"; 2 ♂♂, "Shootfield, 8.6.1912", all gen. det. W. H. T. Tams and H. M. Edelsten (Lort-Phillips coll., in Br. Mus., S. Kensington).
6. Gravesend, "larva in roots of ribbon grass, one emerged June 2, 1911" (F. T. Grant, *in litt.*).
8. Folkestone\*, one, June 14, 1908, S. G. Hills, gen. det. C.-H. (R.C.K.). Folkestone Downs, two, June 7, 1932, gen. det. D. S. Fletcher (A. M. Morley). Dover, ♂, July 1, 1935, B. Embry, ♂, June 5, 1952, G. H. Youden, both gen. det. C.-H. (G. H. Youden); ♂, July 13, 1935, B. Embry, gen. det. D. S. Fletcher (G. H. Youden). Wye, ♀, May 28, 1949, gen. det. C.-H. (C.-H.).
9. Kingsgate, ♂, labelled "R. Stanway Paris. Kingsgate. 13.6.1921", gen. det. C.-H. (R.C.K.).
12. Ham Street, two, June 15-16, one, July 6, 1951, gen. det. C.-H. (C.-H.). Ashford, two, c. 1955, gen. det. C.-H. (P. Cue).
15. Dungeness, two, May 31, 1952, gen. det. C.-H. (C.-H.).
16. Folkestone, one, May 26, 1952, one, June 21, 1956, both gen. det. D. S. Fletcher (A. M. Morley).

FIRST RECORD, 1844: Darent Wood (Douglas, *Zoologist*, 687). It is possible this refers to one of the other species, so that the first confirmed record dates from 1901: Plumstead, J. Butterfield (in Br. Mus., S. Kensington).

***P. latruncula* Schiff.: Tawny Minor.**

Native. Rough fields, waste places, etc.; foodplant unrecorded.

1. Lewisham.—♂, "Lewisham. July 1890". "R. Adkin Bequest"; ♂, "Lewisham. Bd. 14.7.1898". "R. Adkin Bequest"; both gen. det. C.-H. (R.C.K.). Bexley, one, 1910, gen. det. C.-H. (R.C.K.).
3. Broad Oak, June 23, 1946 (2), June 14 (2), 16 (2), 1952, all gen. det. C.-H. (C.-H.).
4. Sandwich, one, June 16, 1950, gen. det. C.-H. (C.-H.); two, July 15, 1951, gen. det. G. H. Youden (G. H. Youden).
8. Wye\*.—Two, "Wye. 2.vii.97. S. Hills", gen. det. C.-H. (C.-H.). Folkestone\*.—One, "Folkestone, e.c. C. G. Barrett, 1906", gen. det. C.-H. (R.C.K.). Folkestone Warren, one, June 16, 1929, gen. det. C.-H. (A. M. Morley). Elham, ♀, July 9, 1931, gen. det. D. S. Fletcher (G. H. Youden).
12. Ashford, three ♂♂, c. 1955, gen. det. C.-H. (P. Cue).

16. Folkestone Town, one, June 7, 1945, gen. det. C.-H. (A. M. Morley)  
FIRST (CONFIRMED) RECORD, 1890: Lewisham, July 1890 (R.C.K.).

**P. versicolor** Borkh.: Rufous Minor.

Probable resident. Chalky places; foodplant unknown.

[6. Gravesend.—♀, "Huggins Gravesend 20/6/05" (H. C. Huggins coll.). From an external examination of the genitalia, D. S. Fletcher said this was probably *versicolor*. As Huggins did not permit dissection, however, confirmation was impossible. The specimen looked to me like an abnormally pale *latruncula* (C.-H.).]

7. Westwell.—Two, taken at sugar, June 14, 1908 (Heath, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1908: 11; idem, *Entomologist*, 73: 90). Two specimens, presumably the latter, and each labelled "Westwell vi.1908 G. H. Heath" are in H. C. Huggins coll. One is a ♂, and the genitalia clearly showed it to be *versicolor*; the other which has had much of the abdomen removed bears a label "Genitalia No. Be 19 ♂ F. N. Pierce" (C.-H.).

[It is recorded (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1945-46: 2) that de Worms exhibited *versicolor* from "Kent" on March 10, 1945. No trace of the specimen(s), however, can be found (C.-H.).]

[(Folkestone Town, ♂, June 7, 1945, exhibited as *versicolor* (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1946-47: 36) is not that but *latruncula*, gen. det. C.-H. Folkestone Town, ♂, June 21, 1956, taken by A. M. Morley (Scott, *Trans. Folkestone nat. Hist. Soc.*, 1956: 6) and labelled "Most probably *versicolor* W.H.T.T.", is not that but *strigilis*, gen. det. D. S. Fletcher.)]

FIRST (CONFIRMED) RECORD, 1908: Westwell (Heath, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1908: 11, as "*Oligia strigilis* . . . with red central fascia and white marginal band").

**P. fasciuncula** Haw.: Middle-barred Minor.

Native. Marshes, wet meadows, etc.; foodplant unknown. Recorded from all divisions. "Generally abundant" (*V.C.H.* (1908)).

The species appears to be fairly generally distributed, but shows a marked preference for damp situations, and is sometimes locally abundant, especially in 2, 4, 15. In a wet meadow, adjoining a reed bed near Sittingbourne (div. 2) on June 20, 1953, there were about 300 *fasciuncula* on a row of 200 sugared posts, with sometimes as many as 10 per patch, far more than I have seen or heard of elsewhere on a single occasion; by contrast, however, it was a bad night for light and only one *fasciuncula* came to the four lamps there (C.-H.). At Dungeness in 1964, R. E. Scott recorded a total of 114 *fasciuncula* in his m.v. trap, but in 1963 a total of only eleven. At Bromley, D. R. M. Long recorded a total of only six in his m.v. trap for 1959-64, with none in 1959 and 1964.

VARIATION.—Tutt (*Br. Noct.*, 1: 103) records ab. *pallida* Tutt as the commonest form in Kent; also from Kent, ab. *cana* Stdgr., and *pallida-extrema* Tutt.

FIRST RECORD, 1834: Darent Wood (Wood, *Index Entomologicus*, 55).

**P. literosa** Haw.: Rosy Minor.

Native. Marshes, chalk sea-cliffs, rough grassy places by the sea, etc.; on *Arrhenatherum elatius*. Mainly coastal; frequent in 4, 8, 15.

Obs.—In 1938, an early year, A. H. Lanfear (*Diary*) noted it at Sandwich on June 16.

1. Lewisham (Stainton, *Zoologist*, 1790). Lee, several, 1861-63 (Fenn, *Diary*; idem, *Ent. week. Int.*, **10**: 196); one, 1886 (Fenn, *Diary*); 1952, 1962, several 1956; all at m.v.l. (C. G. Bruce). Eltham; Farnborough (*Wool. Surv.* (1909)). Bexley (V.C.H. (1908)). Blackheath, one, August 16, 1906 (A. R. Kidner, *Diary*); several at m.v.l., 1959 (A. A. Allen). Chislehurst, three, July, 1908 (S. F. P. Blyth). West Wickham, one at sugar, July 29, 1926 (S. Wakely); one, in m.v. trap, August 6, 1963 (R. Birchenough). Plumstead, two at m.v.l., 1953 (J. Green). Orpington, several at m.v.l., 1958 (R. G. Chatelain). Bromley, 1960 (2), 1962 (30), 1963 (13), 1964 (21); earliest date July 11, 1964, latest date September 3, 1962 (D. R. M. Long).
2. Chatham\* (Tyrer, *Ent. week. Int.*, **7**: 4). Greenwich Marshes (Jones, *Ent. week. Int.*, **10**: 187); 1861-62 (Fenn, *Diary*). Sittingbourne (H. C. Huggins).
3. Broad Oak, two at privet blossom, July 28, 30, 1939 (C.-H.). Eddington near Herne Bay, several at m.v.l., August 3, 1951 (Marsh, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1951-52: 34).
4. Ickham, 1954-59, "several each year but far from common" (D. G. Marsh). The moth is fairly plentiful at sugar at Sandwich on the coast (C.-H.).
5. Chevening, July 17, 1913, July 31, 1916 (Gillett, *Diary*). Westerham (R. C. Edwards).
6. Near Shorne, common on flower heads (H. C. Huggins). Gravesend, one at sugar, July 27, 1911 (F. T. Grant). Otford, about 12 per annum in m.v. trap, 1955-56 (W. B. L. Manley).
- 6a. Darent Wood, frequently captured (Stephens, *Haustr.*, **3**: 12).
7. Wigmore Wood; Darland (Chaney (1884-87)). Westwell, at sugar, August 13, 1938 (A. J. L. Bowes).
8. Though moderately common on the coast, I have no records of its occurrence inland in this division (C.-H.).
9. Ramsgate (Willson, *Entomologist*, **23**: 140); numerous, July 10, 1913 (J. W. C. Hunt); Chilton lane (W. A. Cope).
10. Brasted Chart, August 16, 1913; Sevenoaks, August 1, 1920 (Gillett, *Diary*).
11. Shipbourne, August, 1910† (P. J. & D. J. A. Buxton coll.).
12. Ashford, 1933 (Scott (1936)). Willesborough, three, August 3-28, 1954, three, July 29-August 6, 1955, seventeen, July 18-August 19, 1956; Wye, one, August 12, 1953, one, August 10, 1956 (W. L. Rudland). West Ashford, two, August, 1960 (M. Enfield).
13. Tunbridge Wells (Knipe (1916)). Goudhurst, fairly common in 1953, and in other years (W. V. D. Bolt).
14. Tenterden (Stainton, *Man.*). Sandhurst (Bull, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1940-41: 22).
15. Littlestone, August 12-14, 1922 (Gillett, *Diary*). Dungeness, common, July 26, 1935 (J. H. B. Lowe); and since noted by many other observers (C.-H.); 77 in m.v. trap, July 19-August 29, 1962 (R. E. Scott); a larva on *A. elatius*, June 6, 1950 (E. C. Pelham-Clinton).
16. Folkestone Town, one or two annually at m.v.l. since 1951 (A. M. Morley, *in litt.*, 22.viii.1958). Sandgate, 1960 (4), 1961 (2) (N. Reay-Jones).

FIRST RECORD, 1829: Stephens *loc. cit.*

**P. furuncula** Schiff. (**bicoloria** Vill.): Cloaked Minor.

Native. Sandhills, sea-cliffs, chalk downs, grassy wayside, etc.; on *Festuca arundinacea*. Recorded from all divisions, except 10 (probably occurs); mainly maritime and submaritime in distribution, and seldom noted plentifully inland. Abundant coastally in 2, 4, 8. "Generally common and often abundant" (V.C.H. (1908)).

The records show the moth to be of infrequent occurrence well-inland, especially so in the Weald. Thus, at a regularly operated m.v. trap at Sevenoaks, Weald (div. 11) in 1960, E. A. Sadler recorded only two examples, August 6, 8; and at Goudhurst (div. 13), W. V. D. Bolt's only record for several years light trapping is of a single specimen in 1953. It appears to be uncommon in the Ashford district (div. 12); where W. L. Rudland noted it as follows: 1953 (2), 1954 (1), 1955 (9), 1956 (6), with none at all at Willesborough for the same period; and I only found one (on a fence) in Ashford in 1951, and have seen it twice only at Ham Street (C.-H.). The moth is likewise not common at West Wickham (div. 1), but becomes noticeably more frequent nearer the Thames estuary, and towards the border of the metropolis where according to A. A. Allen it was numerous at m.v.l. in his garden at Blackheath in 1959. There are no records of its occurrence in plenty in any of the Wealden divisions 11, 12, 13, 14, with but one exception: Beeching (*Ent. Rec.*, 2: 229) states that the moth swarmed at sugar at Tunbridge Wells in 1891.

G. Haggett took the larva on the *Arenostola morrisii* Dale ground at Folkestone c.1955, on *F. arundinacea*.

**VARIATION.**—On the sandhills at Sandwich, Deal and Greatstone, the moth occurs as a small form, and appears to be less brightly marked than elsewhere. In Folkestone Warren, the banded form is perhaps predominant, and the majority are pale inclining to whitish. My series from many Kent localities includes what I judge to be the following named abs.:—*pallida* Tutt; *minor* Cab.; *bicoloria* Vill.; *brunnæ-reticulata* Tutt; *rufa-reticulata* Tutt, numerous at Sandwich; *insulicola* Stdgr.; *furuncula* Hübn.; *terminalis* Haw.; *unicolor* Warr.-Seitz; *pulmonariae* Dup.; *reticulata* Tutt. Typical *furuncula* seems to be scarce, and I appear to have only one, from Broad Oak (C.-H.).

Tutt (*Br. Noct.*, 1: 103 et seq.) states that there occurs on the "chalk downs of Kent . . . a white form with almost obsolete markings"; that on Greenwich Marshes, "the greater number of specimens are dark reddish-brown or reddish-grey"; and that at Deal, "a large percentage are mottled-grey or reddish forms". Stephens (*Haust.*, 3: 14) records ab. *humeralis* Hübn., "in the utmost profusion near Dover"; and ab. *terminalis* Haw., from Darenth, and "rare near Dover".

**FIRST RECORD**, 1829: *Apamea humeralis* Haw., Dover (Curtis, *Br. Ent.*, 260).

[(*Photheses captiuncula* Treits. (*expolita* Staint.)): Least Minor.

Recorded erroneously by Juby and Hards (1925), 63; C. Hards showed me specimens of *P. furuncula* Schiff. from Abbey Wood in his coll., mis-identified as *captiuncula*, and which he informed me were the basis of the above record (C.-H.).]

**Luperina testacea** Schiff.: Flounced Rustic.

Native. Rough uncultivated grassy places, cliffs, cereal fields; on *Festuca arundinacea*, wheat. Plentiful in all divisions, and probably

present everywhere suitable in the county. "Generally abundant" (V.C.H. (1908)).

I have never seen it so abundantly as on the sea-walls in div. 2 and 4, especially at Reculver and between Seasalter and Faversham (C.-H.). At Dungeness in 1963, R. E. Scott recorded a total of 2048 *testacea* in his m.v. trap, with maximum (219) on August 29. At Willesbrough in 1963, W. L. Rudland noted it as follows:—August 8-September 9 (787) with maximum (98) on September 2.

Edelsten (*Entomologist*, **74**: 280) states that at Birchington (div. 9), the larvae were so abundant that they practically destroyed a wheat field. G. Haggett has taken the larva on *F. arundinacea*, on the *Arenostola morrisii* Dale ground in Folkestone.

VARIATION.—Tutt (*Br. Noct.*, **1**: 137-139) records ab. *obsoleta* Tutt, from Deal; ab. *cinerea* Tutt, from Strood and Deal; ab. *nigrescens* Tutt, from Strood; and observes that in the Deal neighbourhood the specimens "sometimes show a great tendency to melanism". Morley (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1953-54: 38) exhibited ab. *obsoleta* Tutt, from Folkestone.

Colthrup (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1910-11:148) exhibited a long series taken at Margate, September 1910, the colour varying from "black, dark grey, brown, to pale ochreous in the females, whereas in the males the pale ochreous form did not occur"; but adds, "I took two beautiful pale grey specimens of that sex".

FIRST NOTICE, 1818: "In 1818 and 1819, it was in the utmost profusion at Birch-wood and vicinity" (Stephens, *Haust.*, **3**: 6).

#### **L. dumerilii** Dup.: Dumeril's Rustic.

Immigrant. Two authentic captures only.

[4. "Deal"\*\* (1871, Morris, *Br. Moths*, **2**: 106).]

8. Dover, ♀, taken by H. D. Stockwell at gas lamp in the town, September 21, 1901 (Stockwell, *Diary*; Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1901: 21; Stockwell, *Entomologist*, **35**: 25). This specimen is in R.C.K. (C.-H.).

15. "Near Appledore, Kent, 17.ix.1954. A. L. Goodson", a ♂ so-labelled in R.C.K. (C.-H.). The specimen was taken in Kent about 1 mile south of Appledore, by the east bank of the Military Canal (A. L. Goodson<sup>1</sup>).

FIRST (CONFIRMED) RECORD, 1901: Dover (H. D. Stockwell, *Diary*, 21.ix.1901).

<sup>1</sup>A. L. Goodson informs me that owing to an editorial error, the locality was wrongly given in *Ent. Gaz.*, **6**: 232, as "one mile west of Ashford". In South (*Br. Moths* (1961 edition), **1**: 294), the locality is given as "Ashford"; and in *Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 33, as "S. Sussex (C.-H.).

#### **Euplexia lucipara** L. ssp. **britannica** Turner: Small Angle-shades.

Native. Gardens, woods, parkland; on bracken, cultivated ferns, currant, *Chamaenerion angustifolium*, ivy, birch, oak, "*Malva alcea* L.". Recorded from all divisions, except 15. "Generally common" (V.C.H. (1908)).

An imago taken at Lee in mid September 1900 (Bower, *Ent. Rec.*, **12**: 340), appears to be an instance of partial second generation.

The larva has mostly been taken on ferns. Thus, Morgan (in Given (1946)) records it at Tunbridge Wells as "a pest of our rockery ferns"; F. T. Grant took 12 larvae off ferns in his garden at Gravesend, September

28, 1927; and Stainton (*Ent. mon. Mag.*, **23**: 67) records larvae eating his ferns at Lewisham. A larva was beaten from bracken at Downe, by R. B. Wallis, September 16, 1962; and it has also been taken on this at Dartford and Bexley by B. K. West. The larva has been taken on currant, Sidcup, October 9, 1937 (A. R. Kidner, *Diary*); feeding on *M. alcea* L. in a garden at Bexley (B. K. West); on ivy buds, West Wickham, September 1956 (C.-H.); and has been found feeding on birch and oak, West Wickham, Darent (Huckett, *Ent. week. Int.*, **10**: 52); and on *C. angustifolium* at Bromley (D. R. M. Long).

VARIATION.—Turner (*Supplt. to Tutt's Br. Noct.*, **3**: 147) named the British form ssp. *britannica* which may be briefly diagnosed as having "the general coloration and marking lighter and more varied than these features in the normal typical forms on the Continent".

FIRST RECORD, 1720: The larva "found feeding on the *Female Fern* . . . by the Woodside near Charlton in Kent" (Albin, *Nat. Hist. Eng. Ins.*, facing plt. 75).

**Phlogophora meticulosa** L.: Angle-shades.

Resident, perhaps reinforced by immigration<sup>1</sup>. Cultivated and waste places; on *Kentranthus ruber*, hop, "ferns", *Cineraria*, "chickweed", *Glechoma hederacea*, "nettle", birch, "dock", ivy, bramble, oak, fennel. Found in all divisions. "Generally common" (V.C.H. (1908)).

The moth is of frequent occurrence throughout the county, but is occasionally subject to vast changes in numerical strength, which may be due to immigration. Thus, at Dungeness, on September 23, 1955, E. C. Pelham-Clinton (*in litt.*) noted that the insect began to swarm at light at 11 p.m., and the next day was found in large numbers sitting about on vegetation; and French (*Entomologist*, **89**: 145) states that on September 24, 1955, hundreds were seen on fences and bushes near the lighthouse, and that a similar occurrence was recorded at Sandgate on the same day. At Dungeness, on September 29, 1956, it was in hundreds (R. F. Bretherston); and in early October 1962, Wightman (*Ent. Rec.*, **74**: 237) estimated he saw 2500 there in four evenings.

There are records of feral imagines in Kent for every month of the year except February. There seem to be at least two broods, the moth appearing normally from May to about the third week of July, then from about mid-August to October, with numbers reaching a maximum in late September. It has been noted exceptionally as follows: Sidcup, 1913, last seen, December 9; Joydens Wood, one, fresh, March 27, 1928 (A. R. Kidner, *Diary*). Sandhurst, one, wings just expanded, November 23, 1950 (Bull, *Ent. Rec.*, **64**: 57). Beckenham, one with wings expanding, December 28, 1938 (Watts, *Ent. Mon. Mag.*, **75**: 31). Broad Oak, one, March 17, 1938 (C.-H.). Maidstone, one in house, January 13, 1957 (E. Philp). Bromley, one, January 27, 1962 (Jacobs, *Ent. Rec.*, **74**: 61); November 26, 1962, January 7, 1962 (D. R. M. Long).

The larva which may be polyphagous, has been taken at Bromley, on nettle (*Urtica dioica*), birch, dock, ivy, chickweed, and bramble (D. R. M. Long); on *K. ruber* at Dover, and *G. hederacea* at Trottesscliffe (C.-H.); on ferns in a garden in Herne Bay (A. J. L. Bowes); on fennel and dock at Lee (Fenn, *Diary*, 11, 13.vii.1874); on *Cineraria* at Chevening (Gillett, *Diary*); on chickweed at Gravesend (F. T. Grant); and commonly on hop at Tunbridge Wells (C. A. Stace).

VARIATION.—The following reddish forms may be referable to ab. *ignicula* Dnhl. or possibly ab. *roseobrunnea* Warr.-Seitz: Sandwich, two, 1950; Ham Street, one, 1949 (C.-H., Proc. S. Lond. ent. nat. Hist. Soc., 1954-55: 21); Ickham (Marsh, Proc. S. Lond. ent. nat. Hist. Soc., 1961: 43); Deal, two or three (Tutt, Br. Noct., 3: 63); Folkestone, 1895 (Entomologist, 28: 346). In R.C.K. are ab. *suffusa* Warren, N. Kent, one; and ab. *roseobrunnea* Warr.-Seitz, Bexley, one.

An extremely rare and striking ab. is *westi* C.-H., a ♂ of which was taken Bexley, October 12, 1951; and another ab., though perhaps not quite so rare, is *extensa* C.-H., of which a ♀ was taken Broad Oak, September 9, 1945. Both these are described and figured in *Entomologist*, 94: 282.

FIRST RECORD, 1795: "The caterpillar we . . . once found on a young oak in Kent" (Donovan, Nat. Hist. Br. Ins., 4: 84).

<sup>1</sup>The moth is classed as a migrant by Williams *et al.* (1942).

### **Eriopus juventina** Cram.<sup>1</sup>: Latin.

Immigrant?

12. Wye.—♀, in good condition taken by W. L. Rudland in an m.v. trap near Wye on the night of July 26, 1962 (Rudland, Proc. S. Lond. ent. nat. Hist. Soc., 1962: 45, plt. 1, fig. 7; and in litt.); the specimen is in R.C.K. (C.-H.).

FIRST RECORD, 1962: Rudland, Proc. S. Lond. ent. nat. Hist. Soc., 1962: 45.

<sup>1</sup>This is only the second British occurrence of *E. juventina*, the first being that of one (sex unrecorded) taken at Laughton Woods, Sussex, May 16, 1959 (Green, Ent. Gaz., 11: 3).

### **Thalpophila matura** Hufn. (**cytherea** F.): Straw Underwing.

Native. Rough grassy places; foodplant unknown. Found in all divisions. "Generally common" (V.C.H. 1908)).

The moth is of frequent occurrence and appears to be fairly generally distributed throughout the county, but there are comparatively few records of its having been noted plentifully. V.C.H. (1908) gives it as "abundant" at Deal; Gillett (*Diary*) wrote that at Chevening, August 3, 1912, there were "a good many" that night but bad specimens; and the most recorded for any one year by W. L. Rudland in his m.v. traps, was 64 in 1956 at Willesborough, during the period July 26-August 23.

VARIATION.—In R.C.K. is ab. *conjuncta* Lempke, one, "Whitstable, Aug. 1899".

FIRST RECORD, 1829: Darent and Birch Woods, sparingly (Stephens, Haust., 2: 107).

### AMPHIPYRINAE

#### **Petilompa minima** Haw. (**arcuosa** Haw.): Small Dotted Buff.

Native. Marshes, wet meadows, ditches, damp woods; on "Aira" [*Deschampsia caespitosa*] Locally plentiful in the Weald, and formerly so in div. 1.

1. Lee Swamp, at light but mostly at rest on "grasses" after dusk; one, July 3, fifteen, July 16, very common, July 17, 1863; two, July 25, 1885; one, July 31, 1886; July 25, 1889 (Fenn, *Diary*). Lewisham (Adkin, Entomologist, 4 (51), ii). Shooters Hill Wood, several, July 28, 1862, taken by A. H. Jones (Fenn, *Diary*) (Eltham (Fenn, in *Wool. Surv.* (1909)), may refer). Forest Hill, two, June 1885 (Cansdale, Ent. Rec., 2: 69). Kidbrook, in a swamp (West, Ent. Rec., 18: 200). Brown's Wood, Halfway Street,

common, July 7, 1874 (Fenn, *Diary*). Farnborough (W. Barnes, in *Wool. Surv.* (1909)). Pauls Cray Common, July 27, August 3, 1887 (Fenn, *Diary*); "in a very damp area", two, July 28, 1902; four, July 2, 1907; two, July 6, 1908; three, July 28, 1909; one, July 20, 1912 (S. F. P. Blyth). Chislehurst (Cockerell, *Entomologist*, 18: 20). Sidcup, one, July 23, 1929 (A. R. Kidner, *Diary*). Petts Wood, one, 1947; two, 1948 (E. Evans). West Wickham, July 20, 1951 (R. Birchenough); one, July 26, 1953 (E. E. J. Trundell); one, July 1963 (C.-H.). Orpington, one, 1956 (R. G. Chatelain). Blackheath, one, 1959 (A. A. Allen). Bromley, 1960 (1), 1962 (2), 1963 (3), 1964 (1) (D. R. M. Long).

2. Deptford Marshes, 1843-44 (Bedell, *Zoologist*, 1007). Dartford\* (V.C.H. (1908)). Sittingbourne (H. C. Huggins); one, June 1949 (C.-H.).

3. Thornden Wood, June 11, 1865 (Fenn, *Diary*). Church Wood, two, June 29, 1933 (A. J. L. Bowes). Blean Woods, two, June 13, 1934 (T. G. Edwards). Chestfield, one, July 9, 1945 (P. F. Harris).

4. Deal (Harding, *Ent. week. Int.*, 8: 155). Minster, three, July 10, 1905 (J. P. Barrett coll.); 1914 (1), 1920 (1), 1921 (1) (H. G. Gomm coll.).

5. Westerham (R. C. Edwards).

6. Greenhithe\* (Farn MS.). Pinden, one, 1948 (E. J. Hare).

6a. "Mr. Haworth captured a single specimen many years since at Darenth-wood" (Stephens, *Haust.*, 3: 15). Chattenden Roughs (Chaney (1884-87)). Chattenden (H. C. Huggins).

7. Wigmore Wood (Chaney (1884-87)).

8. Lady Wood (Knaggs (1870)). Coombe Wood, one, July 16, 1895, two, July 21, 1897, two, July 25, 1899; Poulton Wood, June 17, 1899 (Stockwell, *Diary*). Whitfield; Shepherdswell; Wingmore (E. & Y. (1949)). Hawkinge, numerous (A. M. Morley).

10. Brasted Railway Station, June 30, 1912; Sevenoaks, July 6, 1919 (Gillett, *Diary*).

11. Yalding, 1903 (20) (E. Goodwin coll.); very plentiful at Yalding, the larvae feeding on the extensive patches of *Aira* grass near Twyford Bridge (Reid, *S. east. Nat.*, 1904: 52). Aylesford, c. 1952 (G. A. N. Davis). Hoads Wood, several, c. 1953 (P. Cue). Sevenoaks Weald, July 27, 1959, July 26, 1960 (E. A. Sadler).

12. Ham Street.—June 30, 1934, July 3, 1935 (Bull, *Diary*); in Orlestone Woods, flying about and sitting on *D. caespitosa*, 1948, 1952, 1962 (plentiful), also, at m.v.l., 1951 (C.-H.). Willesborough (Scott (1936)); July 22-29, 1955 (2), July 12-August 3, 1956 (4) (W. L. Rudland). Ashford (Scott (1936)). Brook (C. A. W. Duffield, *fide* E. Scott). Chartham, two, 1952 (P. B. Wacher). Wye, July 13, 1953 (1), July 22-August 2, 1955 (2) (W. L. Rudland). Potters Corner, one, 1959 (M. Enfield).

13. Tunbridge Wells (E. D. Morgan). Goudhurst, one at light, 1950 (W. V. D. Bolt).

14. Sandhurst, at light, July 4, 1937 (Bull, *Diary*).

15. Dungeness, July 27, 1956 (R. F. Bretherton).

16. Folkestone Town, singletons at m.v.l., 1950, 1952, 1955, two, 1957 (A. M. Morley).

FIRST RECORD, 1802: *Noctua minimina* (Haworth, *Prodromus*, 19). Identified in Haworth (*Lepidoptera Britannica*, 2: 216), with the provenance: "Exemplarum unicum solum vidi, quod in Cantio cepi". Haworth's monotype of *minima* was thus Kentish.

**Hapalotis venustula** Hübn.: Rosy Marbled.

Resident? Wooded areas.

Note:—The records suggest the species may have fairly recently extended its range into Kent from Sussex.

5. Westerham, one, at house light, taken June 18, 1937 (R. C. Edwards).
6. Otford, one taken in m.v. trap, July 6, 1956 (W. B. L. Manley).
12. Willesborough, one, taken in a garden by P. Cue, July 5, 1958 (C.-H., Ent. Rec., 71: 55; where I erroneously stated that he took it in a garden at Ashford).

FIRST RECORD, 1937: Westerham (R. C. Edwards coll.).

**[Hydrillula palustris]** Hübn.: Marsh Moth.

Doubtfully Kentish.

The sole claim for this interesting fenland species to be included here, rests upon a single, uncorroborated, and surprisingly inadequate statement.

H. Goss (in V.C.H. (1908), 186) has: "Mr. Webb informs me that the following very rare species have also been taken in the county, viz. *Hydrilla palustris*, H., . . . ].

**[Celaena haworthii]** Curt.: Haworth's Minor.

Doubtfully Kentish.

1. Abbey Wood (B. W. Adkin, in Wool. Surv. (1909), 352). In the absence of further information and evidence confirming its correctness, this record must be considered doubtful.]

**C. leucostigma** Hübn.: Crescent.

Native. Marshes, swamps, wet places; foodplant unknown.

1. Eltham swamp, one, July 27, 1865 (Fenn, Diary). Lee, one in m.v. trap, July 25, 1958 (C. G. Bruce). West Wickham, one, in m.v. trap, August 27, 1963 (R. F. Birchenough).
2. Greenwich Marshes, August 12 (1861) (Jones, Ent. week. Int., 10: 188). Abbey Wood Marshes, one, July 27, 1863; one at sugar, by A. H. Jones, July 22, 1865 (Fenn, Diary). Greenhithe (Farn MS.). Gravesend, not uncommon, 1903-10; Sittingbourne, not uncommon, 1920-23 (H. C. Huggins). Dartford Marshes, one on reed flowers, August 1950 (B. K. West). Aylesford, one, 1954 (G. A. N. Davis).
3. Broad Oak, one, at light, August 2, 1946 (C.-H.).
4. Deal, one, August 26, 1892 (Fenn, Diary); two, 1900 (Russell James, Entomologist, 33: 357); at light, August 6, 1949 (G. H. Youden). Sandwich district, August 6, 1884 (Tutt, Entomologist, 18: 70). Sandwich, August 9, 1939 (A. J. L. Bowes); one at sugar, August 1, 1948 (C.-H.); Reculver, one, July 20, 1934 (A. J. L. Bowes). Westbere, three, August 22, 1944, several, August 10, 1945, two, July 24, three, August 2-3, 1946 (C.-H.). Ickham, not common, 1954-59; three one night in 1959 (D. G. Marsh).
8. Coombe Wood, one, July 29, 1899 (Stockwell, Diary). Shakespeare Cliff, one taken by B. Embry in vegetation below S. Cliff, July 28, 1921 (E. & Y. (1949)). Dover, one, 1952 (Gardiner, Ent. Gaz., 10: 7); in light trap, August 3 (1), 21 (1), 1955, August 26, 1964 (1) (G. H. Youden).
11. East Malling, one, 1951 (G. A. N. Davis).
12. Willesborough, one, September 15, 1953, one, August 5, 1956; one, August 14, 1963; Wye, one, August 28, 1954, one, August 9, 1956 (W. L.

Rudland). West Ashford, one, at light, 1961 (M. Enfield).

[13. Tunbridge Wells, doubtful (Knipe (1916)); "one or two" (A. L. H. Townsend, in Morgan, *Lepidoptera of Tunbridge Wells MS.*).]

15. Dungeness, ♂, August 7, 1931, ♀, August 16, 1933; one by G. H. Youden, July 26, 1949 (A. M. Morley); August 6, 1938 (A. J. L. Bowes, *Diary*); three in m.v. trap, as follows: August 19, 30, September 4, 1962 (R. E. Scott).

16. Folkestone\* (Ulyett (1880)). Folkestone, one below the Leas, July 28, 1933 (A. M. Morley).

VARIATION.—Tutt (*Br. Noct.*, 1: 67) describes ab. *albipuncta*, which he says he has taken at Greenwich.

Of my short series of ten Kentish examples, so far as I can judge, seven approximate to typical *leucostigma* Hb., one is ab. *albipuncta* Tutt, and two are referable to ab. *fibrosa* Hübn. (C.-H.).

FIRST RECORD, 1861: Greenwich Marshes (Jones, *Ent. week. Int.*, 10: 188).

#### ***Hydraea oculata* L. (*nictitans* Borkh.): Common Ear.**

Native. Marshes, woods, etc.; preferring damp situations. Foodplant unknown. Found in all divisions.

Although occurring repeatedly in small numbers generally throughout the county, there are hardly any instances known of its having been noted really plentifully, notwithstanding the statement in V.C.H. (1908) that it is "often abundant". Accordingly, it may be of interest to cite the very few cases of this that there are on record. Fenn (*Diary*) wrote that on July 27, 1861, it was "in hundreds" on Greenwich Marshes; and Kershaw (*Entomologist*, 51: 66) states that at West Wickham in 1917, it began to appear at sugar on August 3, and "was very plentiful for some weeks". There is also Morgan's much more general observation (in Knipe (1916)) that in the Tunbridge Wells district, it "often swarms on marshy ground"; and Alderson's brief mention of it (in *Wool. Surv.* (1909)) as "abundant" at Farnborough. At the present time, however, there are indications, at least in N.-W. Kent, that the species has been steadily increasing these past few years, to judge by D. R. M. Long's m.v. trap counts at Bromley: 1959 (7), 1960 (13), 1961 (23), 1962 (40), 1963 (52), 1964 (142); with maximum (14) August 7, 1964.

VARIATION.—Tutt (*Br. Noct.*, 1: 59-61) records the following abs. from Kent:—*pallida* Tutt; *rosea* Tutt; *auricula* Haw.; *erythrostigma* Haw.; *obscura* Tutt; *albicosta* Tutt.

FIRST RECORD, 1809: *Noctua erythrostigma* Haw., "Prope Londinium rarissime; apud Margate frequentior: J. Hatchett" (Haworth, *Lepidoptera Britannica*, 2: 240).

#### ***H. paludis* Tutt<sup>1</sup>: Saltern Ear.**

Native. Salt marshes, perhaps casually elsewhere; foodplant unknown.

1. Lee, one, July 16, 1953†, one, August 17, 1958† (C. G. Bruce). Dartford Heath, one at m.v.l., August 28, 1954 (C.-H.). Orpington, one, 1958† (R. G. Chatelain). Blackheath, two, in m.v. trap, 1959 (A. A. Allen).

2. Rochester district (Tutt, *Entomologist*, 21: 308); Strood, 1884 (Tutt, *Entomologist*, 21: 313; ibid, *Br. Noct.*, 1: 63-64); 1908 (Ovenden, *Ent. Rec.*,

**21:** 32). Shorne Mead; Funton and Chetney Marshes, common (H. C. Huggins). Medway Saltmarshes (Tutt, *Ent. Rec.*, **17**: 305). Sheppey, one, 1905 (Bretherton, *Ent. Rec.*, **65**: 131); 1936† (E. H. Wild). Graveney, several worn specimens, August 23, 1958 (C.-H.). Cliffe Marshes, August 21, 1960 (R. G. Chatelain). [Sheppey, 1872, very plentiful settled on flowers of *Statice limonium* (Walker, *Ent. mon. Mag.*, **9**: 163). Cliffe, bred from pupae found under a stone on the salttings, July, 1884 (Chaney, *Proc. S. Lond. ent. nat. Hist Soc.*, 1886: 28). Both these records probably refer to *paludis*].

3. Herne, three† (P. F. Harris).
4. Deal (Tutt, *Entomologist*, **21**: 308; (Browne, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1904-05: 78); Deal; Sandwich, August 11, 1921; in Hope Dept. (R. F. Bretherton, *in litt.*). Deal, Sandhills, four, 1923 (James, *Ent. Rec.*, **35**: 162). Sandwich (E. & Y. (1949)); one, August 26, 1958 (C.-H.). Reculver, one, September 5, 1949† (W. D. Bowden). Ickham, 1954-59, common (D. G. Marsh).
6. Otford, one, 1955†, one, 1956† (W. B. L. Manley). Pinden, "common each year recently" (E. J. Hare, *in de Worms, Lond. Nat.*, 1959: 107).
8. Barham, one, taken c.1947† (A. G. Maconochie).
9. Cliftonville, one, August 4, 1954† (W. D. Bowden).
11. Aylesford, one, 1953†, one, July 12, 1955† (Davis, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1955: 23).
12. Ham Street, one, 1956† (W. B. L. Manley).

15. Dungeness, two, August 11, two, August 17, 1934; one, August 12, eight, August 18, one August 25, 1936 (G. V. Bull, *in C.-H. coll.*); two at m.v.l., August 3, 1951 (C.-H.); a few, August 18, 1958 (E. C. Pelham-Clinton); August 30, 1958 (*de Worms, Entomologist*, **92**: 73); four, August 5, 1959 (R. G. Chatelain); twenty-two in m.v. trap, August 4-29, with maximum (6), August 15, 1963 (R. E. Scott); one, September 21, 1963 (C.-H.). St. Mary-in-the-Marsh, one, July 30, one, August 1, 1948 (P. le Masurier).

16. Folkestone Town, one by A. G. Riddell, 1951 (Morley, *Ent. Rec.*, **64**: 171).

**VARIATION.**—Tutt (*Entomologist*, **21**: 308) states that "on the marshes around Rochester, bordering the Medway, *paludis* in all its form of variation occurs"; and he particularly mentions (*op. cit.*, 312-313) the nymotype, abs. *intermedia* Tutt, *grisea* Tutt, and (*in Br. Noct.*, **1**: 64) *brunnea* Tutt, as occurring in Kent.

**FIRST RECORD**, 1888: Marshes around Rochester (Tutt, *Entomologist*, **21**: 308). An earlier record under *H. nictitans* but which probably refers to *paludis*, dates from 1872: Sheppey (Walker, *loc. cit.*).

<sup>1</sup>In Draudt-Seitz, *Suppl. Pal. Noct.*, 185-186, *paludis* Tutt is treated as a subspecies of *fucosa* Frr. (heretofore considered a form of *oculea* L.) which is given specific rank.

#### **Gortyna micacea** Esp.: Rosy Rustic.

Native. Marshes, salterns, hop-gardens, waste ground, etc.; on "burdock", "dock", hop bine, *Althaea officinalis*. Frequent, especially in moist situations, and found in all divisions.

It is probable the moth is restricted to one generation, but may be subject to a somewhat protracted emergence. In 1893, Fenn (*Diary*) noted it at Lee as early as July 19; and in 1955, W. L. Rudland observed one at

light at Wye as late as November 7, after first seeing the moth there that year on August 3.

West (*Ent. Rec.*, **18**: 200) records the larvae and pupae as very common in stems of burdock on Greenwich Marshes; Haggett and Wightman (*Entomologist*, **39**: 69) state that they bred a single *micacea* in 1955 from roots of *A. officinalis* from Romney Marsh; and Tutt (1896, *Br. Moths*, 167) wrote that "when the ground (previously a market-garden) on which Westcombe Park Station is now built was lying waste, it became covered with a rank growth of dock, in which this species for a year or two revelled. One might have taken thousands in September . . .".

The larva is a noted pest on hop. Theobald (*Entomologist*, **61**: 121) first recorded young larvae at Brenchley (div. 11) as damaging the tops of hop-bine in 1927; and again (*Entomologist*, **63**: 7) noted them as doing considerable damage in 1928 and 1929 at Staplehurst (div. 11), and Pembury (div. 13). Recently, Massee (*Rep. E. Malling Res. Stn.*, 1957: 134) states that larvae "caused considerable harm to young hop hills", at Marden (div. 11).

VARIATION.—Tutt (*Br. Noct.*, **1**: 65-66) records the following abs. from Kent:—*cypriaca* Haw., "the more common one in Kent"; *lutea* Tutt; *rubida* Tutt; *brunnea* Tutt; and *grisea* Tutt.

I have a ♂, taken Broad Oak (div. 3), September 21, 1951, which appears transitional to ab. *aurantia* Richardson (C.-H.).

FIRST RECORD, 1845: Lewisham (Stainton, *Zoologist*, 1194).

#### **G. petasitis** Doubl.: Butterbur.

Suspected resident or native. Wet places; [on *Petasites hybridus*].

6. Pinden, one, at m.v.l., August 31, 1954† (E. J. Hare coll.).

10. Farningham, ♀ taken by G. Law, flying at night about *P. hybridus*, August 23, 1955 (C.-H. coll.).

13. Frant Road, Tunbridge Wells, one taken by E. D. Morgan c.1894 (E. D. Morgan, *in litt.*; Given (1946)).

FIRST NOTICE, c.1894: Tunbridge Wells (E. D. Morgan).

#### **G. flavago** Schiff. (**ochracea** Hübn.): Frosted Orange.

Native. Marshy fields, gravel pits, waste places, etc.; on "thistles", "dock", "burdock", "ragwort", "pea", *Buddleja davidii*, *Artemisia vulgaris*, [tomato]. Found in all divisions, and in numerous localities in 1-8, 10-15; single records only for 9, 16. "Common in some localities" (V.C.H. (1908)).

9. Ramsgate, one, August 21, 1949 (A. H. Lanfear).

16. Folkestone Town (A. M. Morley).

The larvae and pupae have been noted in Kent in the stems of thistles, ragwort, burdock and dock (Rattray, *Entomologist*, **49**: 284; Buckmaster, *Ent. mon. Mag.*, **4**: 133; Mathew, *Entomologist*, **25**: 291; Shaw, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1904: 17; Ovenden, *Ent. Rec.*, **21**: 33; West, *Ent. Rec.*, **18**: 200; Hards, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 87; Haynes, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1955: 88). Larvae in thistles and burdock, Tonbridge, 1951 (H. E. Hammond); in stems of Marsh Thistle, Petts Wood dist., 1950 (A. M. Swain). Larva in *B. variabilis* and *A. vulgaris*, Dover Castle, June 20, 1949 (Cockayne, *Ent. Rec.*, **61**: 81). Larvae in burdock, Dartford (div. 10) (B. K. West). A larva found in a pea-pod, Willesborough, July 1956: it was left in the pea-pod and the moth was reared (P. Cue). [Kent(?), Theobald (*J. S.-E. Agricultural Coll., Wye*, 1900: 42-43) states that several cases of damage by this species to tomatoes

was reported in 1899, including one "received from Mr. Bear on 10th July in a tomato stem".]

FIRST RECORD, 1862: Charlton district, September 27, 1862 (Fenn, *Diary*).

**G. hucherardi** Mab.: Giant Ear.

Resident, perhaps native. Marshy fields and ditch-banks near the sea; on *Althaea officinalis*.

12. Ham Street Village, one, August 31, one, September 1, 1957 (de Worms, *Entomologist*, 91: 152); one, in m.v. trap, September 22, 1957 (R. F. Bretherton).

15. Stone, near Appledore, ♀, taken by the canal by M. W. F. Tweedie, September 4, 1953 (M. W. F. Tweedie, *in litt.*); five, October 3, 1953 (Howarth, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 32). Greatstone, one, September 13, 1953 (Robinson, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1953-54: 15). Appledore, several, September 21, 1955 (E. C. Pelham-Clinton); September 21, 1962 (de Worms, *Entomologist*, 96: 58). Snargate, September 21 (7♂♂), 22 (1), 26 (3♂♂), 1955 (W. L. Rudland). Fairfield near Appledore, about twenty flying or at rest and many more seen, September 21, 1957 (Bretherton, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1957: 22); September 19, 1957, about 14 taken by D. G. Marsh, G. H. Youden, and W. D. Bowden (W. D. Bowden, *Diary*). Romney Marsh (some records under this may refer to localities situated just over the Sussex border)—thirty between 8 and 9 p.m., September 10, 1955, the majority before 8.30 and flying about *A. officinalis*, with only two at m.v. (P. B. Wacher & C.-H.); larvae, July 1955 (Goodson, *Ent. Gaz.*, 7: 27-28); September 16, 1961 (Fairclough, *Ent. Rec.*, 74: 108); pupae dug, early August 1956 (Dyson, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1956: 25) (cf. also, *Entomologist*, 87: 249 et seq., 88: 96, 217 et seq.; *Ent. Rec.*, 72: 220, 73: 16, 74: 108; *Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 32, 37-38, 1955: 46, 1956: 23, 1959: 28, 1962: 51; *Ent. Gaz.*, 6: 65-67).

VARIATION.—In a ♂ taken Romney Marsh, September 10, 1955, the dark marking is absent except for a spot at the base of the reniform (C.-H.).

FIRST (CONFIRMED) RECORD, 1953: Stone, ♀, taken by M. W. F. Tweedie, September 4, 1953 (M. W. F. Tweedie).

**Dicycla oo** L.: Heart.

Resident, perhaps extinct. Woods; [on oak]. No confirmed record of occurrence since 1919.

1. Woolwich Common, one taken in 1865, at rest on oak (A. H. Jones, *teste* Fenn, *Diary*; Buckle and Prout, *Trans. Cy. Lond. ent. nat. Hist.*, 1899: 75). Bromley, 1882, at sugar in very limited numbers (Watchurst, *Entomologist*, 16: 19); 1887, occurred very freely around Bromley (Tutt, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1887: 74); "Bromley, 1887, G. W. Pocock", several so-labelled in Br. Mus. Nat. Hist. S. Kensington (C.-H.); 1888, many taken by Mr. Collins of Bromley (Lawrence, *Entomologist*, 35: 287); "Bromley, 1893", several so-labelled in Br. Mus., Nat. History, S. Kensington (C.-H.). Joydens Wood, one, July 15, 1886 (Fenn, *Diary*). Shooters Hill, 1887 (Tutt, *loc. cit.*). Eltham; Bexley (V.C.H. (1908)). Near Hayes, many taken at sugar, August 10, 1888 (Auld, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1888: 64). West Wickham district, June 12, 1896, one, June 26, 1897 (W. S. Gilles, *Diary*). West Wickham (Irby, *teste* Goss, in V.C.H. (1908)). Near Chisle-

hurst, one, on gas lamp, June 1902 (Brown, *Entomologist*, 35: 267; idem, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1903: 41). North Kent\*, "North Kent. June 1910. L. W. Newman", one so-labelled in A. W. Hughes coll. (A. W. Hughes, *in litt.*). Bromley.—W. A. Cope told me he took *oo* periodically at sugar in Barnfield Wood, Bromley, and I have a number of specimens of his from there that he gave me, dated 1897 (4), 1908 (1), 1919 (4) (C.-H.).

6a. Darenth Wood, has "been taken rather plentifully . . . at Darenth-wood" (Stephens, *Haust.*, 3: 59).

[12. Ham Street.—"A specimen was taken in Ham Street Woods by Mr. A. W. Hughes in June, 1960" (Scott (1964, 23)). This record is most unsatisfactory. Doubtless "1960" should read "1950" as the record appeared in Scott's ms. annotations with that date, and I have a note in my diary of 16.ix.1950 that he told me *oo* had been taken at Ham Street in June that year. However, both Arnold W. Hughes and A. W. McKenny-Hughes have confirmed (*in litt.*) that they are not identifiable with the above (C.-H.).]

14. Knock Wood near Tenterden, one at sugar, July 1853 (S. C. Tress Beale, *Diary*; Beale, *Zoologist*, 4130).

VARIATION.—In R.C.K. is ab. *rufescens* Tutt, one, Hayes, 1902, one, Bromley, 1893; ab. *renago* Haw., one, Hayes. Ab. *renago* is also recorded from West Wickham (Irby, teste Goss, in V.C.H. (1908)); and there is one labelled "A. Collings, Bromley" in Br. Mus., Nat. Hist., S. Kensington (C.-H.).

FIRST RECORD, 1829: Darenth Wood (Stephens, *Haust.*, 3: 59).

### **Cosmia pyralina Schiff.: Lunar-spotted Pinion.**

Resident, perhaps native. Woods, copses, hedges; on *Ulmus glabra*, *U. procera*.

This species has shown a steady increase generally and spread into new areas during the past fifty years, and at the present time is probably fairly well distributed throughout the county, despite the lack of records from many areas, and in some cases whole divisions. Its apparent absence from the much worked div. 1 for more than a century, until its reappearance there in 1948, is noteworthy.

1. Near Birch Wood, two or three taken in different years (Stephens, *Haust.*, 3: 62). Petts Wood, one, 1948, one, 1949 (E. Evans); 1951 (A. M. Swain). Orpington, 1948, 1953 (L. W. Siggs).

3. Ridgeway, several, July 28, 1932; August, 1934 (A. J. L. Bowes). Chestfield, one, July 21, 1946; Whitstable, one (P. F. Harris). Broad Oak, at light, July 20, 1946 (2), August 5, 1951 (1), August 13, 1955 (2) (C.-H.). Eddington, at light, July 11; 12, 15 (several) 1949, four, at m.v.l., August 3, 1951 (D. G. Marsh, *Diary*).

5. Halstead, July 15, 1925 (Frampton, *Entomologist*, 59: 173); common, 1924-28 (H. C. Huggins). Westerham, appears annually at light and in 1964 there were 6 or 7 per night; June 27, 1935, July 18, 1947, July 15-23, 1948 (6), July 18-20, 1949, July 19, 1951, July 20, 1952, August 10, 1953 (R. C. Edwards). Biggin Hill, one, July 16, 1955 (C.-H.). High Elms, several larvae beaten, June 9, 1956; one larva, May 25, 1957, but high winds made it difficult; four larvae, June 1, 1957; a few larvae, June 9, 1958; a few larvae, May 24, plenty, May 26, 1964, a few imagines, July 26, 1964; by far the majority of larvae are on Wych elm with very few on common elm (R. G. Chatelain).

6. Gravesend, one, 1906, one, 1908 (H. C. Huggins). Pinden, two, 1952 (E. J. Hare). Otford, July 1955 (W. B. L. Manley, *in de Worms, Lond. Nat.*, 1955: 44).
7. Westwell, July 23, 26, 1946 (G. V. Bull, *Diary*); June 28, 1947, July 24, 1948, one, July 29, one, July 30, one, August 1, 1953, August 9, 1958 (E. Scott); one, August 8, 1955 (C.-H.).
8. Folkestone district\*, 1892 (Fellows, *Entomologist*, 25: 322). Dover, 1945, 1954 (B. O. C. Gardiner). Whitfield, two, July 27, one, August 3, 1899 (H. D. Stockwell, *Diary*). Waldershare (E. & Y. (1949)). Brook, fairly common (E. Scott, *personal communication*, xii.1954). Barham, one, c.1947 A. G. Mackonochie). Waltham, one, 1951 (J. W. C. Hunt).
9. Minster\*, 1921 (H. G. Gomm). Broadstairs, two at sugar, c.1947 (J. W. C. Hunt).
10. Sevenoaks, one in garden, July 20, 1937 (W. E. Busbridge, *Diary*).
11. Hoads Wood, 1951 (P. Cue); about six at m.v., August 11, 1955 (C.-H.). Aylesford, c.1953 (G. A. N. Davis). Sevenoaks Weald, one, July 10, 1959, five, July 11-20, 1960 (E. A. Sadler).
12. Ashford, one, July 1933 (Scott (1936)); fairly common, c.1953 (P. Cue). Ham Street, July 26 (1), 30 (2), 31 (2), 1951; June 27, 1952 (1); July 27, 1956 (3); all at light (C.-H.). Wye, one, July 22, 1953, two, July 30-August 3, 1954, two, August 2-10, 1955; Willesborough, three, July 25-26, 1956, one, August 1, 1957, one, July 25, one, August 2, 1963, one, July 22, one, August 5, 1964 (W. L. Rudland). Ham Street Village, July, 1959 (*de Worms, Entomologist*, 93: 177). Willesborough, at light (M. Singleton, *in litt.*, 1960). W. Ashford, one, 1960 (M. Enfield).
13. Tunbridge Wells district\*, rarely (M. M. Phipps, *in Knipe (1916)*). Goudhurst, common at light (W. V. D. Bolt, *personal communication*, 1961).
14. Tenterden, one, at sugar (Beale, *Diary*). Sandhurst, July 24, 1932, July 16, 1937, July 21, 23, 1939, July 4, 7, 1945, July 13, 1947, June 30, July 12, 1948, July 17, 1949, July 15, 20, 1952, July 14, 20, 27, 1953, July 28, 1954 (G. V. Bull, *Diary*).
15. Dymchurch, six, 1952 (Wakely, *Ent. Rec.*, 65: 44). Ebony near Appledore, August 6, 1956 (W. L. Rudland).
16. West Hythe, larva beaten from wych elm, June 14, imago reared July 13, 1930 (Morley (1931)). Folkestone Town, one, 1951 (A. Riddell, *teste Morley, Ent. Rec.*, 64: 170); singletons, 1938, 1946, 1956; two annually, 1952-54 (A. M. Morley). Sandgate, 1960 (2) (N. Reay-Jones).

FIRST RECORD, 1829: Stephens, *loc. cit.*

**C. affinis** L.: Lesser-spotted Pinion.

Native. Wood-borders, copse, etc.; on *Ulmus glabra*, *U. procera*. Is apparently mainly distributed off the chalk.

1. Recorded many times in the past and from many localities in this division. Recent records are:—Sidcup, one, at light, July 24, 1935 (Kidner, *Diary*). Petts Wood, one, 1950 (E. Evans); 1953 (A. M. Swain). Abbey Wood, 1953 (A. J. Showler). Orpington, frequent (R. G. Chatelain). Blackheath, 1959, at m.v.l., not numerous (A. A. Allen).
2. Sheppeney, one, June 23, 1868 (J. J. Walker MS.). Greenwich\* (W. W. West, in *Wool. Surv.* (1909)). Dartford, ♀, July 18, 1950, at honeydew (B. K. West).
3. Canterbury, one, September 1893 (S. Wacher MS.). Ridgeway, July

1933, "not uncommon in suitable growth of elm" (A. J. L. Bowes). Broad Oak, one, August 2, 1946 (C.-H.). Whitstable, ♀, July 22, one, August 4, 1947, both at indoor light at Millstrood (P. F. Harris, *Diary*). Eddington, ♂, August 8, ♂, August 18, 1950, both at light; two at m.v.l., August 3, 1951 (D. G. Marsh, *Diary*).

4. Minster\*, one, August 6, 1921 (H. G. Gomm).

5. Farnborough\* (Alderson, *Ent. Rec.*, 7: 183). Chevening, several, July 9-August 17, 1912; several, July 21-August 15, 1914, August 5, 1916, July 24, 1917, Gillett, *Diary*). Westerham (R. C. Edwards). High Elms, larvae beaten from elm and wych elm, mostly the latter, June 9, 1956, May 25, 1957, June 1, 1957 (8), June 1958, May 24, 26, 1964 (plenty) (R. G. Chatelain).

6. Greenhithe\* (A. B. Farn MS.). Gravesend, common (H. C. Huggins). Pinden, local (E. J. Hare).

6a. Darent Wood, August 8, 1861 (Fenn, *Diary*); larva, June 10, 1939 (Attwood, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1938-39: 41). Chattenden, one, July 16, 1869 (J. J. Walker MS.); bred series exhibited at S. London ent. nat. Hist. Soc., 1894, by Auld (Turner, *Entomologist*, 27: 276); larvae, May 26, 1894 (Fenn, *Lepidoptera Data MS*); plenty, July 27, 1908 (Ovenden, *Ent. Rec.*, 21: 33).

7. Wigmore Wood (Chaney (1884-87)). Boxley (A. H. Harbottle).

8. Bettleshanger; Waldershare (E. & Y. (1949)).

9. Ramsgate, one, August 1931, one, July 26, 1938 (J. W. C. Hunt.).

10. Ide Hill, one at dusk, July 30, 1938; Sevenoaks, four, at light, July 19, 1947 (W. E. Busbridge, *Diary*).

11. Yalding (V.C.H. (1908)). Shipbourne (P. A. & D. J. A. Buxton coll.). Edenbridge, 1930 (F. D. Greenwood). Aylesford (G. A. N. Davis). Sevenoaks Weald, July 19, August 16, 21, 22, 1959; four, July 12-16, 1960; all at m.v.l. (E. A. Sadler).

12. Ashford Warren; Hothfield (Scott (1936)). Brook\* (C. A. W. Duffield). Wye, one, July 21, 1953 (W. L. Rudland). Ashford Town, one, 1957 (P. Cue).

13. Tunbridge Wells district\*, common (R. H. Rattray, in Knipe (1916)).

14. Sandhurst, August 19, 1934, July 29, 1940, July 24, August 1, 1949; Marsh Quarter, July 22, 1949 (G. V. Bull, *Diary*).

15. Military Canal.—Ham Street (Scott (1936)); larvae plentiful on wych elm, May 23, 1954, imagines reared (C.-H.); Stone near Appledore, August 6, 1956 (W. L. Rudland). Near Dymchurch, 1947 or 1948 (P. le Mausurier).

16. Folkestone (Ulluyett (1880)). Hythe, plentiful (Morley (1931)); 1957 (P. Cue). Folkestone Town, two, 1956 (A. M. Morley). Sandgate, four, 1960 (N. Reay-Jones).

FIRST RECORD, 1847: Lewisham (Stainton, *Zoologist*, 1790).

#### **C. diffinis** L.: White-spotted Pinion.

Native. Wood-borders, stream-sides, etc.; on *Ulmus procera*, *U. glabra*.

The moth shows a marked preference for low-lying localities, and is apparently absent from much of the chalk area. Its occurrence on *U. glabra* (wych elm) is noteworthy since the species is generally supposed to be confined to *U. procera*.

1. Lewisham (Stainton, *Zoologist*, 1790); 1885 (Marriott, *Young Nat.*, 7: 79). Lee, August 23, 1861, August 14, 1862, August 25-27, 1865 (Fenn,

*Diary*; Fenn, *Ent. week. Int.*, **10**: 196). Sydenham, three, 1886-91 (Sellon, *Ent. Rec.*, **2**: 164). Kidbrooke; Lee (West, *Ent. Rec.*, **18**: 229). Eltham; Burnt Ash; Abbey Wood (Fenn, in *Wool Surv.* (1909)). Chislehurst, one, August 16, 1909 (S. F. P. Blyth). Sidcup, one at light, July 28, 1911, one, August 6, 1912, one larva, April 28, 1912, one at light, July 30, 1921, one, July 23, 1922, one at light, August 6, 1938 (A. R. Kidner). West Wickham (V.C.H. (1908)); 1917 (Kershaw, *Entomologist*, **51**: 66); 1950-53 (E. J. Trundell). Bexley, one, August 22, 1900 (Carr, *Entomologist*, **34**: 108); (L. W. Newman, in *Wool. Surv.* (1909)). Petts Wood, 1948, 1953, occasional (A. M. Swain). Bromley, at m.v. trap, 1960 (2), 1961 (2) (D. R. M. Long).

2. Near Woolwich\*, 1861 (Jones, *Ent. week. Int.*, **10**: 196). Plumstead Marsh, five at sugar, August 25, 1862 (Fenn, *Diary*). Greenwich\* (W. West, in *Wool. Surv.* (1909)). Perry Street near Slades Green, one, August 4, 1909 (A. R. Kidner, *Diary*) Dartford, ♀ on umbellifer flower, July 1950 (B. K. West).

3. Canterbury\*, five at sugar, 1893 (S. Wacher MS.); imago reared from larva, c. 1946 (J. A. Parry). Blean, 1904, 1906; several (J. Platt Barrett coll.). East Blean, one, September 5, 1922 (H. G. Gomm coll.). Herne Bay, one at light in the town, August 1931 (A. J. L. Bowes MS.). Chestfield, one, July 23, 1939 (P. F. Harris, *Diary*).

5. Holwood (Hope Alderson, in *Wool. Surv.* (1909)). High Elms, one larva beaten from elm (R. G. Chatelain).

6. Greenhithe\* (A. B. Farn MS.), Gravesend (H. C. Huggins). Pinden, a few (E. J. Hare).

6a. Chattenden Roughs, not uncommon at sugar (Chaney (1884-87)).

9. Ramsgate neighbourhood\* (Willson, *Entomologist*, **23**: 139). Margate, one, July 29, 1904, three, July 20-24, 1907 (J. Platt Barrett coll.).

11. Yalding (V.C.H. (1908)). Wateringbury (V.C.H. (1908)); several, but without date, in E. Goodwin coll. (C.-H.). Maidstone, not uncommon at sugar [c. 1895] (F. T. Grant). Edenbridge, 1930 (F. D. Greenwood).

12. Willesborough, one, August 27, 1955, two, July 19-24, 1956, one, July 23, one, August 5, 1957, one, July 21, 1963, seven, July 23-August 4, 1964 (W. L. Rudland).

13. Tunbridge Wells district\*, rarely (R. H. Rattray, in *Knipe* (1916)).

15. "Hythe 1897 S. Hills", \*four so-labelled in Br. Mus., Nat. Hist., S. Kensington (C.-H.). Appledore, bred from larva on wych elm, 1948 (Scott (1950)); August 6, 1956 (W. L. Rudland). Kenardington, larva from wych elm, May 23, reared July 1953 (C.-H.).

FIRST RECORD, 1847: Lewisham (Stainton, *Zoologist*, 1790).

### C. trapezina L.: Dun-bar.

Native. Woods, copses, etc.; on oak, birch, hazel, lime, hornbeam, maple, hawthorn, crack-willow, privet, sallow, aspen, spindle, "*Diervilla*", elm, *Rhamnus cathartica*, wych elm. Found in all divisions. "Generally abundant" (V.C.H. (1908)).

The imago is usually rather numerous at light and sugar in its favoured localities, and this was especially so at Orlestone Woods on August 5, 1945 (C.-H.). The wooded district at Bromley in which D. R. M. Long operates his m.v. trap appears particularly suitable for the species to judge by his totals as follows: 1960 (124), 1961 (84), 1962 (191), 1963 (150), 1964 (379); earliest date, July 1, 1960; latest date, September 22, 1963, with maximum numbers (35) on August 15, 1964. In another fairly wooded

area on the other hand, W. L. Rudland's m.v. trap totals for Willesborough are remarkably small by comparison, and suggest that the moth is a good deal more local than one might suppose: 1954 (12), 1955 (1), 1956 (4), 1957 (1), 1958 (4), 1963 (4), 1964 (32); with maximum numbers (12) on August 2, 1964.

The larva which is often plentiful, is occasionally extremely abundant. Thus, Kershaw (*Entomologist*, 51: 68) records that at West Wickham Wood in 1917, it occurred to him there in very large numbers with "sometimes as many as ten or twelve larvae falling to one blow of the beating stick". As regards pabulum, it would seem to be polyphagous on deciduous trees and shrubs, and has been noted at Petts Wood on oak, birch and hazel (A. M. Swain); on sallow at Crofton, aspen at Petts Wood, spindle at Eynsford; and elsewhere in Kent on hornbeam, crack-willow, elm, maple, privet, hawthorn, *Diervilla* (D. R. M. Long); on wych-elm at Kenardington (C.-H.); and commonly on limes at Blackheath (A. A. Allen). I have no confirmation that in nature other larvae provide a supplementary diet to the normal vegetable fare of this species, but would mention that at Biggin Hill, June 3, 1958, I observed in spun leaves of an *R. cathartica* bush, two exceedingly bloated *trapezina* larvae, and close to them a number of larval habitations, some containing smallish larvae of *Philereme vetulata* Schiff., and others untenanted but seemingly suspiciously vacant (C.-H.).

VARIATION.—The nymotype and ab. *ochrea* Tutt, together with much variation *inter se*, appear to constitute the majority of Kentish specimens. My series of some fifty Kent *trapezina*, mostly taken Orlestone Woods, 1945-46, exhibits a wide range of variation chiefly in regard to forewing coloration, the ground of which, using Ridgway's terminology, ranges from pale pinkish buff through vinaceous buff and cinnamon buff to orange-cinnamon; amongst others, I also have one in which the ground-colour is drab, one that is a very pretty ab. being drab tinged with vinaceous, and two that are pecan brown (C.-H.).

Tutt (*Br. Noct.*, 3: 22) with reference to this species, states that some localities (in Gt. Britain generally) appear to be more prolific in varieties than others, and adds that of the districts in which he collected, his best vars. came from the Deal sandhills. Davis (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1955: 23) exhibited two abs. from Aylesford, stated to be *ochrea* Tutt, and *badiofasciata* Teich.

FIRST RECORD, 1861: Lee Park (Fenn, *Diary*, 12.vii.1861).

**Enargia paleacea** Esp. (**fulvago** Hübñ.): Angle-striped Sallow.

Resident? Woods.

The earliest known occurrence in Britain of this predominantly northern species is that of one captured in a wood in Kent in 1808. Since then, some half dozen others have been noted in the county, which with possibly one exception likewise occurred in woods. There are indications that at one time *paleacea* may have been temporarily resident in Kent, but whether its appearance here is due to occasional immigration from the continent, or on the other hand to extension of range from elsewhere in Britain, it is impossible to say.

1. Kent\* [Birch Wood?] (see *First Record*). "Very rare; and I believe hitherto only taken on the borders of Birch-wood, where, however, not above three or four specimens have been captured within these ten

years" (1829, Stephens, *Haust.*, 3: 63). Lewisham, one, 1846 (Stainton, *Zoologist*, 1790).

6a. Darenth.—"At Packman's to-day we saw an *E. fulvago* he had taken at Darenth" (Fenn, *Diary*, 16.vi.1874).

12. Ham Street Woods, one, July 9, 1958, at m.v.l. (de Worms, *Entomologist*, 91: 209).

FIRST RECORD, 1809: At meeting of the old Entomological Society of London on January 3, 1809, J. Hatchett read the following note: "Noctua fulvago Hüb. . . I took this in a wood in Kent, the beginning of August last. It was never, that I know of, found in Britain till the present year". (Hatchett, *Trans. ent. Soc. Lond.* (1809), 1 (1), 244). This is also the first British record.

**Zenobia retusa** L.: Double Kidney.

Native. Woods, marshy places; on sallow. "Scarce" (V.C.H. (1908)).

1. Eltham, abundant one season, bred 100 from terminal sallow shoots (A. H. Jones, in Buckell and Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1899: 75). Lee, one bred 1879, B. A. Bower, one, June 1886, B. A. Bower, (Dobree, *Catalogue*); September 3, 1896 (Green, *Trans. W. Kent nat. Hist. Soc.*, 1905-06: 16). S.E. London, 1894, "has quite disappeared" (Fenn, *Ent. Rec.*, 6: 231). Bexley (L. W. Newman, in *Wool Surv.* (1909)).

3. Herne Bay, one, 1953 (D. G. Marsh). Broad Oak, one at electric light, August 2, 1948 (C.-H.).

5. Farnborough\* (Hope Alderson, in *Wool Surv.* (1909)). Westerham (R. C. Edwards).

6. Greenhithe\* (Farn MS.).

6a. Darenth Wood (see First Record); one (H. C. Huggins).

7. Bearsted (E. J. Hare). Boxley, 1953 (A. H. Harbottle).

8. Folkestone\*, one (Haggar, *Entomologist*, 8: 300) (Ulyett (1880) may refer).

11. Yalding (V.C.H. (1908)). Wateringbury (E. Goodwin coll.). Tonbridge (Rattray, *Entomologist*, 45: 80, 49: 284). Edenbridge, 1929 (F. D. Greenwood). Hoads Wood, 1951 (P. Cue); one, September 18, 1954 (W. L. Rudland); several at m.v.l., August 11, 1955 (P. B. Wacher and C.-H.). Bethersden, two, August 14-20, 1960 (C. R. Haxby and J. Briggs).

12. Ham Street, at light, June 21, 1934, one, August 25, 1938, August 24, 1939 (A. J. L. Bowes); August 8, 1939 (G. V. Bull, *Diary*); August 4, 1934 (de Worms, *Entomologist*, 68: 103); one, August 5, two, August 14, 1945 (C.-H.); one, September 15, 1954 (W. L. Rudland); several, August 15-20, 1960 (C. R. Haxby and J. Briggs); larvae on sallow, May 23, 1961 (Wightman, *Ent. Rec.*, 73: 164). Ashford; Warehorn (Scott (1936)). Brook\* (C. A. W. Duffield). Wye, one, August 12, 1953 (W. L. Rudland).

13. Tunbridge Wells (E. D. Morgan).

14. Tenterden (Beale, *Zoologist*, 4103); bred June 24, 1943 (G. V. Bull, *Diary*). Appledore Heath, bred July 5, 1930; Newenden, two, bred July 8, 1930; Sandhurst, August 25, 29, 1930, July 29, August 21, 1939, August 12, 1940, August 2, 1943, August 22, 1949, July 25, 1952, bred July 16, 1942 (G. V. Bull, *Diary*).

15. St. Mary-in-the-Marsh, one at car lights, August 2, 1948 (P. le Masurier). Dungeness, one, August 13, 1949 (G. H. Youden, teste A. M. Morley) [(Dungeness, one, July 26, 1949 (*Trans. Folkestone nat. Hist. Soc.*, 1949-50: 17). This record is erroneous (A. M. Morley, *in litt.*.)].

FIRST RECORD, 1829: Ab. *gracilis* Haw., Darent Wood (Stephens, *Haust.*, 3: 57). Turner (*Supplt. to Tutt's Br. Noct.*, 3: 62) diagnoses this form as "brown-reddish tinted".

**Z. subtusa** Schiff.: Olive.

Native. Woods, marshy places; on aspen, poplar.

1. West Wickham (Perkins, *Ent. week. Int.*, 4: 141); one on fence, August 7, 1917 (Kershaw, *Entomologist*, 51: 66). Bromley (Watchhurst, *Entomologist*, 17: 279); one, September 3, 1960 (D. R. M. Long). Joydens Wood, one, August 21, 1875; Bexley Park Wood, one, August 22, 1885; Mottingham, about 12 larvae, June 3, 1886 (Fenn, *Diary*). Westcombe Park; Blackheath; Halfway Street; Black Fen (*Wool. Surv.* (1909)). Lee (Carr, *Entomologist*, 34: 108); two, June 1886 (Dobree, *Catalogue*); c.1955 (C. G. Bruce). Sydenham (A. M. Swain, in Buckell and Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1901: 65). Farnborough, 1894, over 70 imagines reared from larvae (Alderson, *Ent. Rec.*, 7: 183); one at lighted window, August 15, 1964 (T. Peet). Sidcup, one, August 3, 1912, one, August 12, 1914 (A. R. Kidner, *Diary*). Bexley; Eden Park (S. Wakely). Petts Wood, one, 1949 (E. Evans). Orpington, 1949, 1953 (L. W. Siggs); two, 1958 (R. G. Chatelain). Farningham Wood, bred from larvae on aspen, 1957 (A. A. Allen). Chislehurst, larva on poplar (D. R. M. Long).

3. Whitstable, larva on poplar, imago reared (P. F. Harris, *Diary*).

4. Deal, one, August 10, 1892 (Fenn, *Diary*). Sandwich, two bred 1901 (J. Platt Barrett coll.). Ickham, one, 1959 (D. G. Marsh).

5. Westerham, occasionally, but in August 1964 it was fairly plentiful in m.v. trap (R. C. Edwards). Chelsfield, 1949 (A. M. Swain).

6. Greenhithe\* (V.C.H. (1908)). Pinden (E. J. Hare). Otford, about 20 in m.v. trap annually, 1955-56 (W. B. L. Manley).

6a. Darent Wood (Stephens, *Haust.*, 3: 56); larva (H. C. Huggins); two larvae, June 8, 1932 (A. R. Kidner, *Diary*). Lords Wood (E. J. Hare).

7. Belmont (H. C. Huggins). Westwell, August 17, 1939 (A. J. L. Bowes). Boxley, 1953 (A. H. Harbottle).

8. Shepherdswell (E. & Y. (1949)).

10. Brasted, larva on aspen, 1917, larvae on aspen, May 30, 1918; Seven-oaks, August 25, 1920 (Gillett, *Diary*).

11. Wateringbury (V.C.H. (1908)); numerous, 1911 (E. Goodwin coll.). Tonbridge (Rattray, *Entomologist*, 45: 80, 49: 284). Edenbridge, 1931 (F. D. Greenwood). Aylesford (G. A. N. Davis). Hoads Wood (de Worms, *Entomologist*, 88: 95).

12. Ham Street, July 26, 1934 (A. J. L. Bowes); one, at m.v.l., July 30, 1951; one taken by J. Green, September 12, 1953; both in Long Rope Wood (C.-H.); three, August 15-20, 1960 (C. R. Haxby & J. Briggs); five, July 31, 1964 (R. G. Chatelain); (also recorded from here in *Entomologist*, 67: 102, 68: 103, 88: 95, 91: 152; *Proc. S. Lond. ent. nat. Hist. Soc.*, 1957: 25). Willesborough, one, August 20, 1956; two, August 2, 1964; Wye, one, August 18, 1954, two, August 10, 1955, one, August 10, 1956 (W. L. Rudland). West Ashford, one at light, August 1959 (M. Enfield). Ashford (Scott (1964)).

13. Tunbridge Wells\*, fairly common (Knipe (1916)).

14. Sandhurst, one, August 10, 1940 (Bull, *Proc. S. Lond. nat Hist. Soc.*, 1940-41: 22). Appledore (Scott (1964)). [Tenterden; Hawkhurst (Wightman, *Ent. Rec.*, 73: 164).]

[15. Dungeness (Wightman, *Ent. Rec.*, 73: 164).]

16. Folkestone (Morley, *Proc. S. Lond. ent. Nat. Hist. Soc.*, 1952-53: 42); several (A. M. Morley).

VARIATION.—In R.C.K. are the following: ab. *pallida* Tutt, one, Bexley, 1943; ab. *grisea* Lempke, one, Farnborough, 1896; ab. *rufescens* Lempke, Bexley.

FIRST RECORD, 1829: Stephens, *loc. cit.*

**Panemeria tenebrata** Scop. (**arbuti** F.): Small Yellow Underwing.

Native. Field and wood-borders, lane-sides, railway-banks; on *Cerastium vulgatum*. "Common in many places in meadows" (V.C.H. (1908)).

1. Recorded from many localities in this division in the past. Recent records are:—Sidcup, one, May 27, 1928 (A. R. Kidner). Blackheath, one in a grassy lane, c. 1933 (A. A. Allen). Petts Wood, 1947 (A. M. Swain). Sundridge Park, 1947; Hayes; Joyden's Wood; Elmstead Wood (de Worms, *Lond. Nat.*, 1955: 62). West Wickham, three scattered individuals, 1947-58, including one, May 2, 1957, an early date (C.-H.). Near Orpington (Showler, *Ent. Rec.*, 68: 17).

3. Blean Wood, one, 1866 (Fenn, *Diary*); (H. C. Huggins). Herne, two, 1922 (H. G. Gomm). Whitstable (P. F. Harris). Broad Oak, frequently observed, e.g. May 28, 1947, June 5, 1949, about twelve, May 25, 1953, locally; a larva taken feeding on seed-head of *C. vulgatum*, June 13, 1965 (C.-H.).

5. Farnborough\* (*Wool. Surv.* (1909)). Westerham (R. C. Edwards). Downe (de Worms, *loc. cit.*).

6. Greenhithe\* (Farn MS.). Meopham (H. C. Huggins). Pinden; Fawkham (E. J. Hare). Stone (G. Law). Halling, several, May 12, 1957 (B. F. Skinner).

6a. Near Darenth (Stephens, *Haust.*, 3: 112). Four Elms Hill (Chaney (1884-87)). [Chattenden] (Tutt, *Ent. Rec.*, 4: 229). Darenth Wood, 1911 (F. T. Grant).

7. Hills between Maidstone and Sittingbourne, one, July 11, 1880 (Green, *Young. Nat.*, 1 (34), 267). Wigmore (Chaney (1884-87)). Westwell Scott (1936)).

8. Folkestone\* (Ulyett (1880)). Dover, common, June 1, 1933, May 31, 1934, J. H. B. Lowe); occasionally (B. O. C. Gardiner). St. Radigunds; Ewell Minnis; Whinless Down (E. & Y. (1949)). Chilton Banks, one, June 2, 1901 (H. D. Stockwell, *Diary*). Stowting (C. A. W. Duffield). Brook\* (Scott (1936)).

10. Sevenoaks, 1919 (Gillett, *Diary*). Brasted Chart, one, June 5, 1949 (C.-H.).

11. Wateringbury (Goodwin MS.). Sevenoaks Weald, strong colony, May 15, 1960 (E. A. Sadler).

12. Ham Street (Scott (1936)). Chartham (P. B. Wacher). Long Rope Wood, May 16, 1959 (Scott, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1959: 76). Ashford district, local fairly common in rough places, 1959-60 (M. Singleton).

13. Tunbridge Wells (Cox, *Entomologist*, 4 (62) ii); common (E. D. Morgan). "Not infrequent in grassy places around Tunbridge Wells. Rare in last 3 years" (C. A. Stace, *in litt.*, 14.ix.1959).

14. Tenterden (Stainton, *Man.*). Newenden, June 3, 1931; Sandhurst, May 15, 1945 (Bull, *Diary*). Hawkhurst, several (B. G. Chatfield).

16. Folkestone, one, May 29, 1954 (A. M. Morley).

FIRST RECORD, 1830: Near Darent and Birch woods (Stephens, *loc. cit.*).

**Amphipyra pyramidaea** L.: Copper Underwing.

Native. Woods, copses, hedgerows, parkland; on apple, oak, rose, bramble, maple, black currant, *Rhamus catharticus*, Spanish chestnut. Frequent in 1, 3, 5-8, 10-14, 16. Apparently rather scarce or casual in 2, 4, 9, 15.

2. Higham (H. C. Huggins). Dartford Marshes (de Worms, *Lond. Nat.*, 1955: 42).

4. Sandwich district, August 6, 1884 (Tutt, *Entomologist*, 18: 70). Worth, at sugar, 1961 (T. W. Harman). Ickham, one, c. 1956 (D. G. Marsh).

9. Northdown Park, one at sugar, September 9, 1950; St. Peters, one, worn, August 20, 1957 (W. D. Bowden).

15. Dungeness, September 19, 1953 (R. F. Bretherton).

The moth appears to be chiefly a woodland insect and in such situations is sometimes quite plentiful. Thus, at Faggs Wood, Orlestone, E. A. Sadler noted some 30 examples at sugar on September 3, 1964; and I used to see it in similar numbers at sugar at Den Grove (div. 3) c. 1940 (C.-H.). D. R. M. Long's m.v. trap counts at Bromley are: 1960 (25), 1961 (9), 1962 (70), 1963 (55), 1964 (99). At Dover, B. O. C. Gardiner states that he found it commoner than *A. tragopogonis*.

As in the case of *tragopogonis*, there are indications of a tendency with *pyramidea* to hibernate in the imaginal stage. Thus, H. E. Hammond found the moths at Tonbridge, "common under bark hibernating, Nov., 1950".

The moth normally appears about mid-August, and is sometimes noted in late July; but Miss Pye's statement (in *Roch. Nat.*, 1896 (51), 353) that at Knight's Place it is "very common at sugar in June" (my italics), is questionable.

The larva is recorded as having been noted on bramble, Shooters Hill, May 28, 1947, Barnehurst, May 22, 1952 (J. F. Burton); on oak, Petts Wood, 1951 (A. M. Swain); on apple and rose, Bexley, reared 1951, 1952, respectively (A. Heselden); on black currant and *R. catharticus*, at Petts Wood (D. R. M. Long); and on maple, Crundale, May 28, 1950 (C.-H.). Also, on Spanish Chestnut at Joydens Wood (B. K. West).

VARIATION.—What appears to be ab. *virgata* Tutt is fairly frequent in my experience, and I have such examples from Ham Street, Broad Oak and West Wickham (C.-H.). In R.C.K. are ab. *obscura* Ob., one, Ashford; and ab. *striata* Lempke, two, Ashford.

FIRST RECORD, 1845: Lullingstone Park (Bedell, *Zoologist*, 1007).

**A. tragopogonis** Clerck: Mouse.

Probable resident<sup>1</sup>. Gardens, woods, etc.; on *Poterium sanguisorba*. Frequent and recorded from all divisions.

The habits of this species are interesting, and suggest that there is a tendency for it to hibernate as an imago. At Blackheath, according to A. A. Allen, it is very fond of hiding under bark; and H. G. Gomm (*Diary*) wrote that at Nash Court, Margate, on September 12, 1919, he found the imago under elm bark "in dozens on same tree". The moth normally occurs from early August to late September, but in 1920, H. G. Gomm observed it at Margate as early as July 12; and in 1924, one was noted at

light at Catford on January 1 (Abbott, *Entomologist*, 57: 47).

A larva taken on Salad Burnet (*P. sanguisorba*), Castle Hill, Folkestone, June 19, imago reared August 9, 1943 (A. M. Morley).

FIRST RECORD, 1829: Occasionally at Darenth Wood (Stephens, *Haust.*, 2: 165).

<sup>1</sup>The species is classed as a suspected immigrant by Williams *et al.* (1942: 131).

There is also a record of one having been taken, August 13, 1954, at the N. Goodwin Light Vessel, seven miles off Ramsgate (Rouget, *teste* French, *Entomologist*, 88: 129).

### **Rusina tenebrosa** Hübn. (**umbratica** auct.): Brown Rustic.

Native. Woods, downs, etc.; foodplant unknown. Frequent and recorded from all divisions, except 2, 4; apparently rather scarce in 15.

15. Dungeness, June 30-July 3, July 27, 1956 (R. F. Bretherton); one, June 27, one, July 17, 1962; three, June 28-July 8, 1963 (R. E. Scott).

Although I have seen a great many Kentish ♂♂, mostly at light and sugar, I have only observed two ♀♀ of this species, both of which occurred at light. I cannot suggest a reason for this unless it be that the ♀, which is noticeably smaller and darker, is naturally of much more retiring habits than the ♂ (C.-H.).

The moth normally appears in one generation from the end of May and continues well into July. At Willesborough in 1956, W. L. Rudland noted it as late as July 28. In 1964, however, the same observer recorded one there in his m.v. trap on October 4, which is very remarkable, and suggests without doubt an instance of a partial second generation.

VARIATION.—Ab. *davisi* C.-H., holotype ♂, Aylesford, 1953 (C.-H., *Entomologist*, 94: 282).

FIRST RECORD, 1809: "Habitat in Cantio . . ." (Haworth, *Lepidoptera Britannica*, 2: 207).

### **Mormo maura** L.: Old-lady.

Native. Gardens, river-banks and waste places, especially those it would seem in the vicinity of out-houses and derelict buildings; on ivy, *Euonymous [japonicus]*. "Generally common" (V.C.H. (1908)). Appears to have been less plentiful since about 1930, and is not often seen nowadays.

1. Recorded many times in the past from this division, and sometimes plentifully; e.g. Lee, at sugar, August 20, 1861, "pretty common as usual" (Fenn, *Diary*). Sidcup, many noticed, July 21, 1918, twenty, August 26, 1923.

Recent records are:—Sidcup, at sugar, 1939, larva on ivy buds, October 1920, larva, December 15, 1913 (A. R. Kidner, *Diary*). Blackheath, "formerly (sporadic in 1920's, very occasionally since, not seen in last decade)" (A. A. Allen, *in litt.*, 24.iv.1960). Lewisham, "especially around houses", c. 1947; Charlton (D. F. Owen). Orpington, 1948 (L. W. Siggs). Petts Wood, 1950-51, occasional (A. M. Swain). West Wickham, 1951 (E. Trundell). Hayes Common, some half dozen at rest inside derelict shelters, July 13, 1952 (C.-H.). Plumstead, common, 1952 (A. J. Showler). Bromley, six larvae on ivy blossom, autumn 1960 (Long, *Ent. Rec.*, 74: 246); imagines at light, 1959 (1), 1960 (none), 1961 (1), 1962 (3), 1963 (1), 1964 (none) (D. R. M. Long).

2. Maidstone, along bank of Medway under bushes, etc., overhanging the water, c. 1890 (F. T. Grant). Near Maidstone\* (Gandy, *Entomologist*,

32: 279). Higham (H. C. Huggins). Dartford Marshes, one at honeydew on reeds, July 31, 1963 (B. K. West).

3. Canterbury, at sugar; six, August 1893 (S. Wacher MS.). Herne Bay district (A. J. L. Bowes). Broad Oak, one, 1935, one, July 25, 1940, one, July 30, 1946 (C.-H.).

4. Deal, one, August 22, 1892 (Fenn, *Diary*). Deal\* (Brown, *Entomologist*, 35: 269). Ickham, a number, 1954-59 (D. G. Marsh).

5. Chevening, August 3, 7, 1912; July 22, August 20, 1914 (Gillett, *Diary*). Westerham (R. C. Edwards).

6. Greenhithe\* (Farn MS.). Springhead; Clay Lane Wood (H. C. Huggins). Gravesend, imagines frequent at sugar, 1911-25; common, July 29, 1912; thirty-four, July 10, 1914; larva on ivy and Euonymous, May 14, 1914 (F. T. Grant). Pinden (E. J. Hare). Dartford (B. K. West); July 9, 1952 (G. G. E. Scudder).

7. Eastwell (Scott (1964)).

8. Stowting; Brook\*; Wye\* (C. A. W. Duffield). Elham; Dover (W. E. Busbridge). Bridge, c. 1946 (R. Gorner).

9. Margate, pair in cop., August 8, 1926; Birchington, larva under coping of wall, April 30, 1923 (H. G. Gomm, *Diary*).

10. Sevenoaks, one in garden shed, July 24, 1939, one, August 23, 1948, one, August 10, 1953 (W. E. Busbridge, *Diary*); (F. D. Greenwood).

11. Near Edenbridge, July 31, 1904, fifty or more piled up in small space under sluice gate bridge (Palmer, *Ent. Rec.*, 16: 243). Edenbridge (F. D. Greenwood). Aylesford (G. A. N. Davis). Hoads Wood, several, 1952-54 (P. Cue). Pluckley, 1925 (A. A. Allen). East Malling, "once a regular visitor to the light trap, but now no longer comes" (Massee, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1960: 17).

12. Chartham (P. B. Wacher). Willesborough, several; one, August 1958 (M. Singleton); one at sugar, August 1960 (D. Youngs); one, August 16, 1964 (W. L. Rudland). Ashford (Scott (1964)).

13. Tunbridge Wells, common, 1891 (Beeching, *Ent. Rec.*, 2: 230); "not so common as in North Kent" (Knipe (1916)); one, c. 1955 (C. A. Stace). Goudhurst, occasionally to light and sugar (W. V. D. Bolt).

14. Sandhurst, at sugar (G. V. Bull). Hawkhurst (B. G. Chatfield); 1958 (A. W. Lawson). Tenterden (Scott (1964)).

15. Dungeness, one, July 1957 (E. Philp).

16. Folkestone\* (Knaggs (1870)). Folkestone Town (A. M. Morley).

VARIATION.—The nymotype and ab. *virgata* Tutt are both present in about equal numbers in my small series from Kent, which includes one ab. *rosea* Tutt (C.-H.).

FIRST RECORD, 1782: "They are taken in plenty here, particularly in Kent" (Harris, *Expos. Engl. Ins.*, 10).

#### APATELINAE

##### **Cryphia perla** Schiff.: Marbled Beauty.

Native. Stone walls, old brick walls, palings, cliffs; on *Xanthoria parietina*. Found in all divisions. "Generally abundant" (V.C.H. (1908)).

The moth is perhaps most frequent on the coast and in urban districts inland; it is seldom observed in woods, where in fact it may be casual. In the built-up area of Petts Wood (div. 1) by the railway station, E. Evans noted it as the "most abundant of all insects at station lights; in peak

year 1949 the numbers (256) being one-seventh of total for all macro-lepidoptera".

The species appears to be least plentiful in the Weald, though where there are old buildings in towns has nevertheless been noted as not scarce, as at Sandhurst (div. 14) (G. V. Bull); at Sevenoaks (div. 10), where it is common at light and at rest on fences annually" (F. D. Greenwood); noted at Tonbridge (div. 11) as "common annually" (H. E. Hammond); and at Tunbridge Wells (div. 13), where according to Given (1946), it is "frequent on our stuccoed Victorian houses".

The larva has been taken by me on the walls of the coastguard cottages at Dungeness, May 26, 1963, feeding on an orange lichen *X. parietina* (det. F. H. Brightman); also, once on a wall at Hayes, c. 1950, on which there appeared to be no lichen (C.-H.).

VARIATION.—Ab. *flavescens* Tutt, Deal, *Br. Noct.*, 1: 8; Herne Bay, one, 1929 (A. J. L. Bowes). Ab. *suffusa* Tutt, Strood, Deal (Tutt, loc. cit.); Westgate, one, 1938, and frequently at Folkestone, e.g., 1946, 1950, and Dungeness, 1951, 1954 (C.-H.); also taken at Maidstone, 1953 (A. H. Harbottle); and Broadstairs, 1952 (E. H. Wild). Cockayne (*Ent. Rec.*, 63: 158) describes ab. *aurolichenea*, holotype ♂, allotype ♀, from Folkestone.

For further published records on its variation in Kent, cf., *Ent. Rec.*, 2: 229-230; *Entomologist*, 19: 287, 22: 24, 24: 250, 32: 278, 53: 236, 80: 81; *Proc. S. Lond. ent. nat. Hist. Soc.*, 1886: 63, 1887: 67, 1888: 71, 1890: 47, 1898: 116, 1912-13: 20, 1914-15: 137, 1926-27: 123, 1933-34: 50, 1944-45: 18, 1946-47: 36, 1948-49: 11, 1953-54: 38, 1955: 37.

In R.C.K. is a gynandromorph labelled: "Folkestone, 1917, W. J. Austen".

FIRST RECORD, 1809: "Habitat ad Muros antiquos apud Greenwich Park, copiose. Larva in lichenibus crustaceis" (Haworth, *Lepidoptera Britannica*, 2: 204).

#### C. *muralis* Forst. (par Hübn.): Marbled Green.

Native. Coastally on old walls; on *Diploicia canescens*. Now only ascertained to occur very locally in 15 and 16. Doubtless long extinct in West Kent (v.-c. 16) and questionable if still present in 2 (Sheppey), 4, 8. Probably casual in 12, 13.

1. Plumstead\* (Purnell, teste Fenn, Diary, 11.i.1864). [West Wickham (V.C.H. (1908)); misidentification? (C.-H.). De Worms (*Lond. Nat.*, 1954: 70) gives "Eltham" with V.C.H. (1908) as the authority, but this is erroneous as there appears no such citation therein. Newman (*Entomologist*, 2: 37) in 1864 wrote: "Forty years back it occurred profusely on the canal bridge in the Old Kent Road . . ."; and (in *Br. Moths*, 246), "formerly on the canal bridge in the Old Kent Road, where I have not seen it for twenty-five years". Bate (*Ent. Rec.*, 7: 301) gives Dulwich as a locality. It is probable that these last two localities are in Surrey.]

2. Sheppey, one, July 10, 1868 (J. J. Walker MS.). Sheerness, 1871, "at rest on the dockyard wall, but much less common than in previous years" (Welker, *Ent. mon. Mag.*, 3: 185); not uncommon on the dockyard wall (Chaney (1884-87); the reference in Barrett (*Br. Lep.*, 6: 209) is probably based on this.

4. Deal. Common but very local, occurring on wall from Middle Deal to Upper Deal Church; also in the town (T. Sorrell, teste Fenn, *Diary*, 1884); two, August 28-30, 1888; two, July 29, August 1, 1889; one, August

22, 1892 (Fenn, *Diary*); series taken last fortnight in August (1912) (Tonge, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1912-13: 120, 124); 1914, 1923, 1924 (H. C. Huggins). Walmer\*, one, July 14, 1906 (H. D. Stockwell, *Diary*).

8. Dover (Barrett, *Br. Lep.*, 6: 209). "Scarce at Dover where it has been found on walls and old tomb-stones" (E. & Y. (1949)); G. H. Youden (*in litt.*) says he has no personal experience of *muralis* here, and that the latter statement was made by F. P. Abbott. Thus, there appears to be no instance on records of its occurrence at Dover, and indeed it is questionable if *muralis* has been observed in div. 8 during the past fifty years. Cardew (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1912-13: 101) called attention to the fact that although it was common at Folkestone, he believed it was completely absent from Dover.

12. Ashford, one worn specimen at m.v.l., in garden, July 15, 1955 (P. Cue). Ashford (Scott, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1960: 50).

13. Goudhurst, ♂, taken at m.v.l., June 1951† (W. V. D. Bolt).

15. Dymchurch, seven, July 31, 1934, taken by W. O. W. Edwards, and subsequently about 13 more by A. M. Morley and others (*in 1934*) (A. M. Morley); August 8, 1937, August 7, 1948 (R. C. Edwards); five, 1941 (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1941-42 (2), 26); one, July 25, 1950 (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1950-51: 36); several, 1951 (de Worms, *Entomologist*, 85: 113); three, at m.v.l., July 1952 (Wakely, *Ent. Rec.*, 65: 43); one, July 26, 1957 (P. Cue); ♂, August 11, 1955, one, August 26, 1958; two pupae and four larvae on *D. canescens* (det. F. H. Brightman), July 17, 1963; ♀, August 7, 1965, a pupa, July 2, reared August 14, 1965 (C.-H.).

16. Folkestone, on old walls, two (Knaggs (1870)). Folkestone (Adkin, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1886: 65); exhibited at S. London ent. nat. Hist. Soc., September 12, and 26, 1886, by J. R. Wellman and J. H. Carpenter respectively (Barker, *Entomologist*, 22: 264, 286); in 1892, "only six; appears to be getting scarcer" (Adkin, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1892: 75); 1898-99 (Butler, *Entomologist*, 31: 243, 32: 278); larvae and cocoon on tree-trunk, June 1902 (Colthrup, *Ent. Rec.*, 14: 220); one, fresh, September 12, 1902 (Colthrup, *Ent. Rec.*, 15: 158); one, August 20, 1903 (Pickett, *Ent. Rec.*, 15: 271); two, August 11, 1907, ex G. A. Clark coll., in Goodwin coll. (C.-H.); not uncommon, 1924 (H. C. Huggins). In Folkestone Museum are eight taken by S. G. Hills at Folkestone, August 1-22, 1899; two taken at Folkestone by B. W. Adkin in 1910; and four taken by someone at Hythe in August 1905 (A. M. Morley, *in litt.*). A. M. Morley searched diligently for it at Folkestone in 1928, especially at Tram Road and the wall of the Marine swimming baths (both considered the best places for it), but did not find any, and in his list (1931) has: "seems to have disappeared". Shorncliffe, many taken, August 1901 (Barnett, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1901: 53). Cheriton, four, bred 1907 (Schoon, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1907-08: 97). Hythe, 1901 (Carr, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1901: 65); one, 1919, taken by E. Scott (Morley (1931)). Between Sandgate and Cheriton, three on walls, August 13-16, 1932, and others in later years (A. M. Morley). Folkestone Town, one, in m.v. trap, August 22, 1955 (A. M. Morley).

VARIATION.—Tutt (*Br. Noct.*, 1: 10) records the following abs.:—*par* Hubn., Sandwich, Deal, Folkestone; *viridis* Tutt (holotype), Folkestone; *flavescens* Tutt (holotype), Deal; *pallida* Tutt (holotype), Deal, Folkestone; *obscura* Tutt, Folkestone, W. J. Austen (holotype), Sandwich, one, 1886.

Tutt (*op. cit.*, 4: 86) writes that "most of my specimens of *glandifera* are from Folkestone, and quite half are var *par*".

Cockayne and Williams (*Ent. Gaz.*, 7: 67) describe ab. *grisea-flava*, holotype ♂, Folkestone, 1900, allotype ♀, Folkestone, 1909; and A. M. Morley (*in litt.*) writes that the 27 specimens he has from the Folkestone-Dymchurch area, apparently include typical *muralis* (6), ab. *pallida* Tutt (2), *viridis* Tutt (2), *flavescens* Tutt (6), *obscura* Tutt (3), *par* Hubn. (4).

Of my two 1965 specimens from Dymchurch, both of which are exquisitely fresh, one (August 7) has the natural colour bluish grey-green (Ridgway, *Color Standards*); and the natural colour of the other (August 14) is biscay green (Ridgway, *op. cit.*) (C.-H.).

With regard to f. *impar* Warren; Barrett (*Br. Lep.*, 6: 207) states that "individuals inseparable from the Cambridge specimens have been taken at Deal". Tonge (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1912-13: 120) exhibited one taken at Deal (in August 1912), apparently this; Wellman (*Entomologist*, 23: 387) exhibited from Folkestone a "form similar to *impar*"; and I have one that I bred August 15 from a pupa taken Dymchurch, July 17, 1963, which appears referable to *impar* (C.-H.).

FIRST NOTICE, 1868: Sheppey (J. J. Walker MS.).

### **Moma alpium Osbeck (*orion* Esp.): Scarce Merveille-du-jour.**

Native. Woods; on oak.

Note:—Unrecorded from 13, but may occur. More widespread formerly (cf. *Apatura iris* L., *Jodia croceago* Schiff., *Colobochyla salicalis* Schiff.), and apparently now restricted to the Weald.

1. Birch Wood (see *First Record*). "Mr. Standish I believe has often met with them in Birch-wood" (Curtis, *Br. Ent.*, 404).

[3. Canterbury, 1874, Parry (Dobree, *Catalogue European Noct.*, 6)]  
6a. Chattenden, two or three larvae, 1902-05 (H. C. Huggins).

11. Kings Wood, near Maidstone, ♀, June 20, 1904, on bark of oak trunk beside patches of the lichen *Parmelia caperata*; the "resemblance of the insect to its surroundings was so close that it was difficult to distinguish between them" (Crawshaw, *Ent. Rec.*, 17: 46). Tonbridge, imago, 1939 (H. E. Hammond); five larvae, August 27, 1954 (Hammond, *Ent. Gaz.*, 5: 233). Hoads Wood (Scott (1936)); two, May 24, 1954, one, July 11, 1955 (P. Cue); three, June 15, 1955 (W. L. Rudland).

12. Ham Street.—Noted by many observers in Orlestone Woods, where it persists year after year, occurring chiefly at light, but is seldom if ever plentiful (C.-H.); August 5, 1934, several larvae beaten from oak (de Worms, *Entomologist*, 68: 103); one at sugar, June 18, 1937 (A. H. Lanfear); July 2, 22, 1938 (two at light), July 2, 1946 (3), June 8, 10, 1948 (2), July 6-16, 1951 (several) (C.-H.); five, June 1-2, and one in good condition eight weeks later on July 28, 1956 (R. F. Bretherton); one, July 15, 1962 (G. Haggett).

14. Knock Wood, Tenterden, three, 1853 (Beale, *Diary*; Beale, *Zoologist*, 4130).

16. Folkestone\* (Ullyett (1880)).

FIRST RECORD, 1829: "... a few examples have occurred at Birch-wood" (Stephens, *Haut.*, 3: 47).

### **Apetele leporina L.: Miller.**

Native. Woods, copses, plantations; on birch, sallow [alder, "willow"].

Rather frequent in 1, 6a (Darenth), 10-12

Near Ashford, larva on sallow (Brackenbury, *Entomologist*, 28: 333); Lee (div. 1), a larva on sallow, 1949 (D. Lanktree).

3. Near Canterbury\* (Parry, *Entomologist*, 5: 394). Whitstable, one. 1931 (J. L. Atkinson). Blean Woods (H. C. Huggins); several (D. G. Marsh). Oldridge Wood, one, c. 1946 (J. A. Parry). Eddington, ♀, May 30, 1948 (D. G. Marsh, *Diary*). Broad Oak, one fresh ♂, at electric light. August 5, 1951 (C.-H.).

4. Ickham, one, July 13, one, July 27, 1956 (D. G. Marsh).

5. Farnborough\*, sparingly (*Wool. Surv.* (1909)).

6. Gravesend (H. C. Huggins). Meopham, larva, August 1918; Staisted, three larvae on birch, August 21, 1923; Culverstone, two larvae on on birch, September 18, 1924 (F. T. Grant). Eynsford, larva (Blair. *Proc. S. Lond. ent. nat. Hist. Soc.*, 1933-34: 33). Pinden (E. J. Hare). Meopham, fairly common, 1959-61 (J. Ellerton).

7. Long Beech Wood (Scott (1936)). Westwell, larva, July 22, 1946 (G. V. Bull).

8. Folkestone\* (Ulliyett (1880)). Brook\*; Wye\* (C. A. W. Duffield). Elham, one, at sugar, June 16, 1925; Hadding Wood near Waldershare, one, at sugar, July 8, 1933 (Busbridge, *Diary*). Dover, two, 1954 (B. O. C. Gardiner). Bettleshanger, July 6, 1957 (R. F. Bretherton).

13. Pembury (Weir, *Ent. week. Int.*, 1: 124). Tunbridge Wells (E. D. Morgan); 1957-59, occasional (L. R. Tesch, *fide* C. A. Stace). Goudhurst, frequent (W. V. D. Bolt, *personal communication*, 1961).

14. Tenterden, imagines, June-August (Beale, *Zoologist*, 4130). Sandhurst (G. V. Bull). Hawkhurst (B. G. Chatfield); larva, 1958 (A. W. Lawson).

15. Dymchurch, 1952 (Edwards, *Proc. S. Lond. ent. nat. Hist. Soc.* 1952-53: 28). Dungeness, one, August 7, 1953 (A. Richardson, *teste* A. M. Morley).

16. Folkestone Town, one, 1952 (A. Riddell, *teste* A. M. Morley).

VARIATION.—In 1829, Stephens (*Haust.*, 3: 35-36) recorded typical *leporina* from Darenth Wood and Birch Wood; also, ab. *bradyoporina* Tr. (= *grisea* Cochr.) from these localities, "and in other places in their vicinity", but said *bradyoporina* was "far more rare". As evidence of the melanistic trend in this species, it is interesting to note that during the sixty years that followed, *grisea* increased so enormously that in northwest Kent at least, it appears the relative frequency of typical *leporina* and *grisea* was reversed, and in 1888, Tutt (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1888-89: 45) announced that the "dark form" was almost the only one obtainable in the woods around London. Nowadays all Kentish specimens appear to be fairly thickly marked with greyish scales, indeed I cannot recall ever having seen from Kent an example of the typical form, which it seems has been totally replaced (C.-H.).

Honeybourne (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1955: 12) exhibited an extreme melanic specimen from Dartford, dated August 12, 1955. It is referable to ab. *melaleuca* Culot, and is now in R.C.K.

FIRST (PUBLISHED) RECORD, 1801: "*Phalaena leporina* . . . the larva feeds on Willow and Alder . . . four of these larvae were taken in the wood of Darenth, 1793, and one was reared to the winged state" (Donovan, *Nat. Hist. Br. Ins.*, 10: 8). It is impossible to reconcile Donovan's descrip-

tion of the larva with that of *leporina*, but his figure of the imago is unquestionably this species.

**A. aceris L.: Sycamore.**

Native. Parks, waysides, gardens, etc. (mainly towns, especially London suburbs); on sycamore, common maple, horse chestnut, hop, oak. Frequent in 1.

Obs.—At West Wickham, larvae are noticed most years on horse chestnut, and in 1962 they were numerous, but many were parasitized by Diptera: from a larva taken there, August 1962, *Eumea hortulata* Mg. (det. A. C. Pont) was bred out on November 26, 1962 (C.-H.)<sup>1</sup>. Dartford (div. 1), larvae annually on common maple (B. K. West). Crofton (div. 1), larva on oak (D. R. M. Long).

2. Sheerness (Walker, *Ent. mon. Mag.*, 7: 17); May 11, 1870 (Mathew, *Ent. mon. Mag.*, 7: 17). Gravesend (H. C. Huggins). Abbey Wood, 1952 (A. J. Showler).

3. Herne Bay, larvae, September 10, 19, 1935 (A. J. L. Bowes); frequent at light (D. G. Marsh). Whitstable (P. F. Harris). Canterbury, larva occasionally (J. A. Parry). Broad Oak, two, 1952, both at electric light (C.-H.).

4. Deal Sandhills, July 1888 (Tutt, *Young Nat.*, 9: 164). Sandwich, one at sugar, June 30, 1950 (C.-H.). Ickham, frequent at m.v.l., with up to six on some good nights (D. G. Marsh).

5. Chevening, pupa dug, imago reared, 1914 (Gillett, *Diary*). Westerham (R. C. Edwards).

6. Rochester\* (Chaney (1884-87)). Gravesend, several, 1891 (Milton, *Br. Nat.*, 1: 216); 1927, 1931 (F. T. Grant). Near Greenhithe\*, one, July 5, 1931 (A. R. Kidner, *Diary*). Pinden, scarce; rather common in 1951 (E. J. Hare). Eynsford, July 8, 1960 (R. G. Chatelain).

6a. Darent, sugar, July 1, 1865 (Fenn, *Lep. Data MS.*); 1948 (de Worms, *Lond. Nat.*, 1954: 67). Dartford district (B. K. West).

7. Rochester\* (Chaney, *loc. cit.*). Westwell, 1951 (E. Scott). Boxley (A. H. Harbottle). Challock (Scott (1964)).

8. Near Kingsdown, larvae occasionally (Shepherd, *Entomologist*, 17: 138). Deal\*; Eastry\*; Ringwould (E. & Y. (1949)). Brook\*, 1951 (E. Scott). Bettleshanger, July 6, 1957 (R. F. Bretherton).

9. Ramsgate\* (Willson, *Entomologist*, 23: 139); larva, 1953 (A. S. Wheeler). Margate, twelve imagines on trunks and fences, 1915-33 (H. G. Gomm); 1928 (H. C. Huggins); one, 1951, one, May 24, 1952 (W. D. Bowden). Kingsgate, one, 1921 (H. G. Gomm). Birchington, a few larvae on sycamore, c. 1930 (C.-H.). St. Peters, one, May 20, 1956 (W. D. Bowden).

10. Brasted (R. M. Prideaux). Sevenoaks, at light, 1948 (F. D. Greenwood).

11. Wateringbury (V.C.H. (1908)). Aylesford (G. A. N. Davis). Hoads Wood, one at m.v.l., June 23, 1956 (C.-H.)

12. Ashford, larva, 1947 (Scott (1950)); larva, 1950 (E. Scott); larvae, 1953-54 (P. Cue). Willesborough, May 10-August 8, 1954 (3), June 15-August 17, 1955 (13), June 26-July 26, 1956 (12); Wye, July 1-3, 1953 (5), August 3, 1954 (1), 1955 (none), June 21-July 24, 1956 (15) (W. L. Rudland). Willesborough, two larvae, 1959, several imagines at m.v., 1961 (M. Singleton). West Ashford, several imagines at m.v., 1961 (M. Enfield). Ham Street, several, July 1951 (C.-H.); July 28, 1956 (R. F. Bretherton); July

1959, in the village (de Worms, *Entomologist*, 93: 177).

13. Tunbridge Wells, 1891-92 (Beeching, *Ent. Rec.*, 2: 229; 3: 158); (Knipe (1916); infrequent, two larvae, 1957, bred (C. A. Stace). Goudhurst, frequent (W. V. D. Bolt, *personal communication*, 1961).

14. Knock Wood (Beale, *Diary*). Tenterden, larva on cultivated hops, c. 1960 (C. G. Orpin).

15. Dungeness, 1959 (C. R. Haxby).

16. Sandgate, ♂, ♀, 1898 (Heitland, *Entomologist*, 31: 221); two, 1961 (N. Reay-Jones). Hythe, one, 1898 (Hill, *Ent. Rec.*, 10: 182). Folkestone, "gardens" (Ulyett, *Simpson's Handbook to Folkestone*). Folkestone Town, June 30 (1), July 1 (1), 1952, June 29-30, 1953 (2), June 2 (1), July 19 (1), August 8-9 (2), 1954, July 29, 1955 (1), July 9, 1956 (1), July 8, 1963 (1); Postling Wents, ♀, on trunk of white poplar, July 11, 1953 (A. M. Morley).

VARIATION.—The normal Kentish form would appear to be referable to ab. *intermedia* Tutt; and I have not seen the nymotype from here. I have singletons of the blackish ab. *candelisequa* Esp., from Ham Street, 1951, and Hoads Wood, 1956 (C.-H.). South (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1894: 18) records ab. *infuscata* Haw., from Kent; and A. M. Morley (in litt.) writes that of all his specimens from the Folkestone area, only three could be called dark, and that C. G. M. de Worms was particularly struck by the paleness of the others.

FIRST RECORD, 1831: Greenwich, larva on sycamore, 1830 ("A. E.", *Mag. nat. Hist. J. Zool.*, 4: 93).

<sup>1</sup>Undoubtedly the moth would be far less scarce, were it not for the larva's liability to be parasitized, and at West Wickham at least, the percentage of mortality due to dipterous parasitism must be very high, and in 1961 I estimated it to be as much as 80% (C.-H.).

#### A. *megacephala* Schiff.: Poplar Grey.

Native. Woods, parks, plantations, waysides, etc.; on *Populus nigra*, *P. tremula*, "Balsam Poplar" [and doubtless other *Populus* spp.], *Salix*. In all divisions. "Generally common" (V.C.H. (1908)).

There are many records of the finding of larvae on *Populus* (unspecified); much less often on *Salix*. Dymchurch, a larva on *P. nigra*, c. 1961 (C.-H.). Abbey Woods, Welling, larva found on willow, by B. G. Farrer, September 12, 1950, imago reared (A. Heselden). Church Wood, Blean, 1956, "a pupa under bark of tree willow (*S. alba* or *fragilis*)", imago reared (A. A. Allen). Bexley Heath, 1949, larva on Balsam Poplar (B. K. West). Chistlehurst, larva on poplar; Crofton, larva on aspen (D. R. M. Long).

VARIATION.—Morley (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1934-35: 50) exhibited "a form with light patches on forewings", taken in S. Kent in 1934. What I take to be this or a similar aberration, is fairly frequent at Ham Street (C.-H.).

FIRST RECORD, 1829: Darenth (Stephens, *Haust.*, 3: 38).

#### A. *alni* L.: Alder.

Native. Woods, commons; on birch, oak, Spanish chestnut, apple, elm, hawthorn. Mainly Wealden; very scarce.

1. Birch Wood, larvae on birch (Douglas, *Zoologist*, 3246). Petts Wood, ♀, 1895 (H. E. Page & G. H. Hickling MS.); a larva on oak trunk, 1947 (S. F. P. Blyth). Orpington, one, 1956 (Siggs, *Proc. S. Lond. ent. nat. Hist.*

Soc., 1956: 9).

5. Westerham, one, May 30, 1964 (R. C. Edwards).
- 6a. Cobham Park or Longfield (div. 6), one emerged, April 1, 1869. from pupa dug from one of these localities (Jennings, *Entomologist*, **4**: 263). "Kent" [Darent Wood?] two bred from larvae beaten from oak. August 1877 (Machin, *Entomologist*, **11**: 141). Darent (Carrington. *Entomologist*, **12**: 211); a larva, 1904 (H. C. Huggins).

8. Folkestone\* (Ulluyett (1880)). "Eythorne, bred July 1888", a specimen so-labelled, in D. G. Marsh coll. (C.-H.). "Winchfield, 1890", a specimen so-labelled, in H. D. Stockwell coll. (C.-H.).

10. Sevenoaks, a larva, August 12, 1877 (Lovell, *Entomologist*, **10**: 238); two larvae, one on birch, one on oak, July 24, 1881 (Pratt, *Entomologist*, **15**: 132-133). Wilderness Park, Sevenoaks, a larva, August 31, 1884 (Hill. *Entomologist*, **17**: 252). Near Bessels Green, ♂, taken by B. Armstrong. June 10, 1939 (W. A. Cope & D. G. Marsh). Knole Park, a larva, 1946 (F. D. Greenwood).

11. Near Wateringbury, a larva (E. Goodwin, *teste* H. Goss in V.C.H. (1908)). Holt Wood, Aylesford, one at m.v.l., 1953, a larva on Spanish Chestnut, 1954 (G. A. N. Davis). Sevenoaks Weald, singletons, May 10, 11, 12, June 11, 1959, all four at m.v.l., the last very worn; four at m.v.l., May 16-June 18, 1960 (E. A. Sadler). Hoads Wood, one, at m.v.l., May 30, 1964 (B. K. West).

12. Near Ashford\*, two larvae (1863) (Hammond, *Week. Ent.*, **3**: 253). Ashford, one, 1896, in H. D. Stockwell coll. (C.-H.). Ham Street woods.—One, taken by A. G. Peyton, June 23, 1939 (Scott (1950)); one, June 6, 1950, one, May 27, 1952, both at m.v.l. (E. J. Hare).

13. Pembury (Stainton, *Man.*, **1**: 182). Tunbridge Wells, one captured in a wood (1890) (Beeching, *Ent. Rec.*, **1**: 185); a larva, 1892 (Shepheard-Walwyn, *Entomologist*, **25**: 290); a larva, on elm, Tunbridge Wells Common. August 1, 1900 (Smith, *Entomologist*, **33**: 249); three, taken by L. R. Tesch. 1958 (C. A. Stace). Goudhurst, ♂, 1957, ♀, 1959; a larva, 1958, on apple. 15 ft. from ground (W. V. D. Bolt).

14. Hawkhurst, larva on hawthorn, August 7, 1869 (Melville. *Entomologist*, **5** (74), ii).

VARIATION.—L. W. Siggs's Orpington specimen is described as a "dark form".

FIRST RECORD, 1851: Birch Wood (Douglas, *Zoologist*, 3246).

#### A. *tridens* Schiff.: Dark Dagger.

Native. Gardens, orchards, woods, etc.; on hawthorn, plum, pear, apple.

Much less frequent than *A. psi* L., from which it is recognisably distinct genitally, but not easily separable otherwise in the imaginal state. Thus, some records of captured imagines here given may be referable to *psi*.

1. Lewisham district.—Lee (see *First Record*); larvae on hawthorn (West, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1888: 70); S.E. London [Lewisham], larva once common, has not been noticed now (1894) for years (Fenn, *Ent. Rec.*, **6**: 231). Farnborough\*; Catford; Eltham (*Wool. Surv.* (1909)). Farningham Wood, larva, September 15, 1929 (A. R. Kidner, *Diary*). Orpington, one, July 22, 1957, one, at m.v.l., July 14, 1963; "both males and determined by genitalia" (R. G. Chatelain).

2. Sheppen, larvae pretty frequent, 1873 (Hodgson, *Ent. mon. Mag.*,

**10:** 180). Rochester district\*, of *psi* and *tridens*, 90% are thought to be *tridens* (Tutt, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1888: 70). Dartford Marshes, larva occasionally (L. T. Ford).

3. Herne Bay, larva, 1936 (A. J. L. Bowes). Whitstable, larva on plum (J. L. Atkinson). Broad Oak, ♂, July 26, 1946, gen. det. C. Boursin (C.-H.).

4. Deal Sandhills, July 1888 (Tutt, *Young Nat.*, 9: 164).

5. Chevening, larva, 1914 (Gillett, *Diary*).

6. Greenhithe\* (Farn MS.). Gravesend (H. C. Huggins). Eynsford, larva (Blair, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1933-34: 33).

6a. Darent (Carrington, *Entomologist*, 12: 211). Chattenden, larva (Chaney (1884-87)).

7. Sittingbourne (H. C. Huggins). Westwell, larvae, fairly common (Scott (1936)); common (Scott (1964)).

8. Folkestone\* (Ulyett (1880)). Reinden Wood (Salwey, *Entomologist*, 15: 198). Brook\*, larva (C. A. W. Duffield).

9. Broadstairs, four larvae, 1918 (J. W. C. Hunt). Margate, ♂, bred June 6, 1911, ex larva, F. H. Stallman, gen. det. C. Boursin (C.-H. coll.); two larvae on hawthorn, August 24, 1923; thirteen half-grown larvae on pear, August 17, 1924 (H. G. Gomm, *Diary*).

11. Aylesford, larvae on apple (G. A. N. Davis); ♂, in m.v. trap, June 29, 1956, gen. det. C. Boursin (C.-H.).

12. Willesborough, eight, 1954-56; Wye, twenty, 1954-56; all in m.v. trap (W. L. Rudland).

13. Tunbridge Wells (Beeching, *Ent. Rec.*, 2: 229, 3: 158); larva scarce (Knipe (1916)).

15. Appledore (Heitland, *Entomologist*, 31: 221). New Romney, one, June 22, 1943 (A. M. Morley).

16. Folkestone (A. M. Morley).

FIRST RECORD, 1829: Stephens, *Haust.*, 3: 40. The first definitely Kentish record, however, dates from 1861: Lee, a larva found on hawthorn by H. T. Stainton, August 1861 (Fenn, *Diary*).

#### A. *psi* L.: Grey Dagger.

Native. Gardens, woods, etc.; on birch, apple, rose, hop, oak, plum, hawthorn, rowan, lime, elm, blackthorn, beech. Found in all divisions. "Generally common" (V.C.H. (1908)).

A. R. Kidner observed that at Sidcup, the imagines were seen at all times from the end of May to early September on fences and at light and sugar; earliest date April 22, 1938, latest September 30, 1922; earliest full-fed larva, July 29, 1937. Other consistently kept records also show no appreciable hiatus, so that it would appear the moth occurs in one long protracted emergence with no evidence of a second generation.

The larva has been noted on elm at Dartford and Gravesend; on blackthorn at Dartford, and regularly on limes bordering roads at Bexley (B. K. West); commonly on hop, Tunbridge Wells, and often bred (C. A. Stace); on birch at West Wickham (C.-H.); on rose, Chevening, September 28, 1912, imago reared (Gillett, *Diary*); a number in P. A. & D. J. A. Buxton coll., bred from apple, Shipborne, one of which dated June 26, 1911 (C.-H.); larva on beech and hawthorn at Lullingstone, and on oak, plum and rowan from elsewhere in Kent (D. R. M. Long).

VARIATION.—Tutt (*Br. Noct.*, 1: 21-22) gives ab. *suffusa* Tutt as the

only form taken in the Blackheath district, but adds that it is rare at Darenth and Chattenden; and he records ab. *cuspis* Steph., from Chattenden and Shooters Hill. Doncaster (*Ent. Rec.*, 1906, 18: 224) gives the "dark form" as having been reported as occurring rarely at Farnborough by Hewitt; an "intermediate form", from Deal, by Colthrup; and that at Lee, Fenn reported the "dark as common, light still occurs, but more rarely than 50 years ago".

FIRST RECORD, 1861: Lee (Fenn, *Diary*).

[(*A. menyanthidis* View.: Light Knot-grass.

Doubtless erroneous.

13. Tunbridge Wells district\*.—"Menyanthis (sic) has been reported more or less commonly" (A. D. Reed, *per* E. D. Morgan, in Knipe (1916)). "More or less common" (A. D. Reed) (Morgan, *Lepidoptera of Tunbridge Wells MS.*.)]

**A. auricoma** Schiff.: Scarce Dagger.

Resident, perhaps extinct. Woods, casually elsewhere; foodplant unrecorded.

Whether *auricoma* still persists in the Weald is questionable, and its rarity can be judged from the fact that only eight examples have occurred in Kent to our knowledge during the past 100 years. Prior to 1865, however, this species was by no means rare, and up to 1859 was taken repeatedly, and in considerable numbers locally, over a wide area in East Kent (v.-c. 15). Indeed, there is good reason to suppose that during the 1850's, the moth was much more generally distributed in the wooded portions of the eastern half of the county than the records show; this being in marked contrast to West Kent (v.-c. 16), where throughout its whole history, *auricoma* has been noted but once (in 1876).

3. Near Canterbury\* [Blean Woods?], July 1855, "many specimens of this were taken at sugar, near Canterbury" (Stainton, *Ent. Ann.*, 1856: 46); exhibited from near Canterbury by Mr. Harding, at meeting of Society of British Entomologists, September 4, 1855 (*Zoologist*, 4912); taken in 1856 (Stainton, *Ent. Ann.*, 1857: 115). Blean Woods [East Blean], a larva taken by Charles Miller, June 11, 1865, the moth emerging July 19, 1865 (Fenn, *Diary*). Fordwich\*, I have three very ancient specimens each labelled "Captain Cox, Fordwich" (C.-H.).

6. Longfield near Gravesend, one at sugar, August 18, 1876 (Jennings, *Entomologist*, 9: 208).

7. Chatham district [Wigmore Wood], "Mr. Chaney and I took a considerable number . . . most of which were given to Dr. Allchin. Probably we took more in 1859 than any other year . . ." (Tyrer, *Ent. Rec.*, 1: 212); four, August 1859 (Tyrer, *Ent. week. Int.*, 7: 203). Kent [Wigmore Wood?], two taken, May 1859 (Allchin, *Ent. week. Int.*, 7: 203). Wigmore Wood, May 9-29, July 20-August 17, "formerly not uncommon in Wigmore Wood where I have taken it both at rest on tree-trunks and at sugar. Since 1860, however, I have not seen it in this locality. This may probably be in a great measure owing to the extensive grubbing up of a great portion of the wood" (Chaney (1884-87)).

8. Near Dover, 1864, bred from larvae taken by T. Blackmore (Knaggs, *Ent. Ann.*, 1865: 110)). Folkestone, "In larval state the other side of Abbot's Cliff" (Knaggs (1870)). Folkestone district\* (Ullyett (1880)). The basis for

these last two records is probably Blackmore's captures *antea* (C.-H.). Square Wood, Poulton near Dover, wasted pair *in cop.* taken at sugar by P. A. Cardew, June 13, 1907 (P. A. Cardew, *Diary*; Cardew, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1944-45: 73).

12. Long Rope, Ham Street, May 29, 1950, one taken by E. H. Wild, "found newly emerged on an Oak trunk" (Wild, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1950-51: 48); one taken at m.v.l., by E. J. Hare, August 5, 1951 (E. J. Hare).

14. Tenterden.—"Is not rare at sugar" (1853) (Beale, *Zoologist*, 4130); "has again been taken at sugar near Tenterden" (Stainton, *Ent. week. Int.*, 1: 83, *communication dated 11.i.1856*); Knock Wood, near Tenterden, May 1857 (S. C. Tress Beale, *Diary*).

15. Dungeness, one taken at sugar by A. M. Morley, August 12, 1932 (A. M. Morley); one at sugar, August 4, 1933 (de Worms, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1933-34: 52; *idem, Entomologist*, 66: 259).

16. Folkestone Town, one taken in m.v. trap, August 7, 1951 (Morley, *Ent. Rec.*, 64: 171).

FIRST RECORD, 1853: Tenterden (Beale, *Zoologist*, 4130).

#### **A. rumicis L.: Knotgrass.**

Native. Woods, marshes, gardens, hop-yards, waste places; on hop, *Cirsium arvense* (and perhaps other "thistles"), "dahlia", "*Heuchera*", "rhubarb". Apparently much less plentiful formerly, at least in metropolitan Kent, since *Wool. Surv.* (1909) gives it as "scarce", and in *V.C.H.* (1908) it is considered sufficiently uncommon for localities to be given.

Theobald (*Entomologist*, 61: 121, 63: 7) records that larvae were very abundant in 1927, 1928 and 1929 in many hop-gardens in Kent, and caused considerable defoliation. He adds that 'Mr. G. Bull of Sandhurst tells me the children call the insect the "Hop Cat" in that locality'.

Green (*Ent. Rec.*, 53: 31) writes: "I used to find larvae of this species in Kent, feeding on thistles. The resulting moths emerged towards the end of May".

1. [Birch Wood] (see *First Record*). West Wickham (1891) (Wells, *Ent. Rec.*, 3: 35). Charlton (C. Fenn, in *Wool. Surv.* (1909)). Eltham (A. H. Jones, in *Wool. Surv.* (1909)). Shooters Hill (W. West, in *Wool. Surv.* (1909)). Chislehurst (S. F. P. Blyth).

Many records of occurrence since 1945, e.g.:—Petts Wood, several each year (1946-50) (E. Evans). West Wickham, 1951 (E. Trundell). Abbey Wood, Belvedere, 1947-48 (A. J. Showler). Orpington, 1948-53 (L. W. Siggs). Petts Wood, 1951, common (A. M. Swain). Bexley, 1952, numerous at m.v.l., May 2-22, singletons, July 5, 6, 12 (A. Heselden). Blackheath, 1959, 1960 (A. A. Allen). Bexley, larvae on flowers and leaves of *Heuchera*, a garden plant; also several larvae annually on *C. arvense* at Bexley Heath (B. K. West). Bromley, larva on dahlia; imagines at m.v. trap, 1959 (1), 1960 (32), 1961 (26), 1962 (42), 1963 (23), 1964 (53); earliest date April 18, 1961, latest date September 24, 1961 (Long, *Ent. Rec.*, 73: 133). West Wickham, larva on rhubarb (R. F. Birchenough).

2. Greenwich Marshes (J. W. Tutt, in *Wool. Surv.* (1909)). Erith Marshes (C. Fenn, in *Wool. Surv.* (1909)). Higham (H. C. Huggins). Dartford (B. K. West).

3. Herne Bay, larva, reared April 11, 1933 (A. J. L. Bowes). Eddington (D. G. Marsh). Whitstable, several; one reared 1938 ex pupa (P. F. Harris).

Broad Oak, singletons, 1937, 1946, 1948 (C.-H.).

4. Sandwich, August 8, 1892, "large dark var." (Fenn, *Diary*); one on post, July 9, 1962 (B. K. West). Minster, ♂, August 17, 1915 (H. G. Gomm, *Diary*).

5. Westerham (R. C. Edwards).

6. Longfield (Jennings, *Entomologist*, 4 (54), ii). Pinden district (E. J. Hare).

6a. Darenth Wood, 1859 (Harding, *Ent. week. Int.*, 6: 75); 1861 (Fenn, *Ent. week. Int.*, 10: 196). Chattenden Roughs, on oak tree, July 27, 1912 (F. T. Grant).

7. Wigmore, not common at sugar (Chaney (1894-87)). Westwell (G. V. Bull). Boxley, 1953 (A. H. Harbottle).

8. Folkestone\* (Ullyett (1880)). Deal\* (V.C.H. (1908)). Bridge, c. 1946 (R. Gorer). Martinsfield, 1903 (Browne, *Entomologist*, 35: 269). Stowting; Brook\*; Wye\* (C. A. W. Duffield). Dover, a larva, 1944 (B. O. C. Gardiner).

9. Westgate, on elm trunk, July 27, 1915; Dane Park, Margate, one, July 22, 1933 (H. G. Gomm, *Diary*). Margate, May 13, 1954 (W. D. Bowden).

10. Sevenoaks, larva, imago reared May 4, 1920; May 28, 1922 (Gillett, *Diary*).

11. Wateringbury (V.C.H. (1908)). Edenbridge, at sugar, 1930, 1934 (F. D. Greenwood). Tonbridge, several at light, 1939 (H. E. Hammond). Hoads Wood, 1955 (C.-H.).

12. Ashford, July 27, 1934 (A. J. L. Bowes). Chartham, 1953 (P. B. Wacher). Ham Street (G. V. Bull); 1948, 1951 (C.-H.). Ashford Town, one on lime trunk, April 17, 1949, worn (C.-H.). Willesborough, numerous, 1954-56; Wye, numerous, 1953-56 (W. L. Rudland).

13. Tunbridge Wells, 1891-92 (Beeching, *Ent. Rec.*, 2: 229; idem, *Ent. Rec.*, 3: 158).

14. Sandhurst (G. V. Bull). Hawkhurst (B. G. Chatfield). Tenterden, larvae on hops (C. G. Orpin).

15. Dungeness, August 30, 1947 (H. King); one, June 1, 1953 (C.-H.); one, July 12, 1963 (R. E. Scott).

16. Folkestone Town, one, 1951 (Morley, *Ent. Rec.*, 64: 170); and several since (A. M. Morley). Sandgate, two, 1960, two, 1961 (N. Reay-Jones).

VARIATION.—Single examples (unless otherwise stated) of what appear to be referable to ab. *salicis* Curt., have occurred as follows: Whitstable, 1938† (P. F. Harris); Chartham, two, July 28, 1953† (P. B. Wacher); Sandwich, "large dark var" August 8, 1892 (Fenn, *Diary*); Ham Street, August 2, 1952†; Pinden, July 31, 1955† (E. J. Hare). Hoads Wood, August 11, 1955 (C.-H.). Aylesford, two† (Davis, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1955: 23). Ham Street, three, July 20-31, 1951 (C.-H., *Ent. Rec.*, 64: 149). Ab. *salicis* appears to be mainly, if not entirely, confined to the second generation, since I have no record of its occurrence amongst 1st brood *ruminicis*; furthermore, it seems it was unknown prior to 1892, and to have much increased of late (C.-H.).

Kettlewell and Goodson (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1960: 37), exhibited an ab. from Ham Street, "with pale margins"; and Richardson (*Entomologist*, 91: 211) describes ab. *striata*, holotype ♂, from Ham Street.

FIRST RECORD, 1829: "Acronycta euphrasiae Steph. . . . caught near London; I believe at Birch-wood" (Stephens, *Haust.*, 3: 43). This is the "pale yellowish grey form" (Turner, *Supplt. to Tutt, Br. Noct.*, 1: 75).

**Craniophora ligustri** Schiff.: Coronet.

Native. Woods; on ash. Perhaps extinct in 1.

1. Birch Wood, larvae on ash, 1842-43 (Douglas, *Zoologist*, 333, 484). West Wickham, 1857 (Tugwell, *Ent. week Int.*, 3: 11); 1867 (Fenn, *Ent. week. Int.*, 10: 196). Near Woolwich, 1861 (Jones, *Ent. week. Int.*, 10: 187). Shooters Hill Wood, June 24, July 12, 1862 (Fenn, *Diary*) (*Eltham* (V.C.H. (1908)), and Halfway Street (*Wool. Surv.* (1909)), may both refer). Farnborough\*, Holwood\* (H. Alderson, in *Wool Surv.* (1909)). Joydens Wood (C. Fenn, in *Wool. Surv.* (1909)). Bexley (L. W. Newman, in *Wool. Surv.* (1909)). Lee, 1901 (Brown, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1905-06: 99).
3. Near Canterbury\* (Parry, *Entomologist*, 5: 394).
4. Ickham, one, July 27, 1956 (D. G. Marsh).
5. Chelsfield, larvae on ash (Carr, *Entomologist*, 34: 108).
6. Shoreham, larvae on ash (S. F. P. Blyth). Strood; Cuxton\* (Tutt, *Br. Noct.*, 1: 13).
- 6a. Darent Wood (Stephens, *Haust.*, 3: 38); 1844 (Douglas, *Zoologist*, 687); 1846 (Meldola, in Hope Dept. coll., teste de Worms, *Lond. Nat.*, 1954: 69); one, June 16, 1862 (P. Bouchard, teste Fenn, *Diary*); larvae common on ash, 1864 (Meek, *Ent. mon. Mag.*, 1: 191). [Chattenden?] (Porritt, *Entomologist*, 8: 219; Tugwell, *Entomologist*, 8: 293). Chattenden Roughs; Mark Oak Wood\* (Chaney (1884-87)).
7. Wigmore Wood (Chaney, *loc cit.*). Westwell, three at light, June 28, 1947 (E. Scott); three, 1953, two, 1957 (D. G. Marsh).
8. Reinden Wood (Salwey, *Entomologist*, 15: 198); fairly plentiful (Morley (1931)). Folkestone district\* (Fellowes, *Entomologist*, 25: 322). Poulton, one, June 27, 1908 (P. A. Cardew, *Diary*). Dover (Youden, *Ent. Rec.*, 51: 12); fairly common in all woods around Dover (E. & Y. (1949)). Brook\* (C. A. W. Duffield); June 3, 1961 (de Worms, *Entomologist*, 95: 101). Wye Downs (Scott (1936)); one, at light, August 8, 1963 (M. Singleton).
10. Near Sevenoaks\*, 1857 (Farren, *Ent. week. Int.*, 2: 171).
11. Wateringbury (V.C.H. (1908)). Tonbridge (R. H. Rattray, teste E. D. Morgan); 1939 (H. E. Hammond). Aylesford (G. A. N. Davis). Hoads Wood, c. 1953 (P. Cue). Sevenoaks Weald, one, July 1, 1959; one, July 9, 1960; both at m.v.l. (E. A. Sadler).
12. Ham Street, bred, July 5, 1935 (G. V. Bull, *Diary*); ten at m.v.l., July 20-30, 1951; a larva on ash, July 1951 (C.-H.); July 8, 1958 (de Worms, *Entomologist*, 92: 71). Ashford (P. Cue). Warehorne, July 12, 1937 (G. V. Bull, *Diary*). Wye, one, June 28, 1954, seven, July 12-August 6, 1955; four, May 29-July 24, 1956; Willesborough, one, August 3, 1954, one, July 18, 1956 (W. L. Rudland). Charlham, several (P. B. Wacher).
13. Pembury (Stainton, *Man.*, 1: 182). Goudhurst, numerous at m.v.l. (W. V. D. Bolt, *personal communication*, 1961).
- Knock Wood, Tenterden (Beale, *Diary*) (Stainton, *loc cit.*). Sandhurst, July 9, 1933 (G. V. Bull, *Diary*).
16. Folkestone, one, 1952 (A. M. Morley).

VARIATION.—Among those taken by me at Ham Street in 1951, is one that I judge to be ab. *coronula* Haw. (C.-H.). Of ab. *coronula*, Tutt (*Br. Noct.*, 1: 13) states: "I have . . . frequently captured it with the type at Strood, Cuxton and other places in North Kent".

FIRST RECORD, 1829: Darent Wood (Stephens, *Haust.*, 3: 38).

**Simyra venosa** Borkh. (**albovenosa** auct.): Reed Dagger.

Resident. Marshes; foodplant unknown.

This moth was unknown to occur in Kent prior to 1948, so that its repeated appearance since over a wide area of east Kent (v.-c. 15) is very remarkable.

4. Ickham, ♀, July 31, 1956 (Marsh, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1956: 36); May 9, (1), August 7 (1), 9 (1) 1959, August 30, 1962 (1), May 17 (1), July 28 (1), August 5 (♀, much worn ♂) 1964, August 15 (♂), 18 (♂, fine condition), 20 (♂, fine condition) 1965. All at m.v.l. in garden (D. G. Marsh).

12. Wye, small ♂, in m.v. trap, August 15, 1953 (W. L. Rudland).

15. St. Mary-in-the-Marsh, one taken at car headlights, July 29, 1948, by P. le Masurier (P. le Masurier, *in litt.*). Dungeness, ♂, in m.v. trap, taken by E. C. Pelham-Clinton, August 18, 1958 (E. C. Pelham-Clinton, *in litt.*).

16. Folkestone Town, worn ♂, in m.v. trap, August 21, 1959 (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1959: 43).

VARIATION.—E. C. Pelham-Clinton writes (*in litt.*) that his specimen is in fair conditon, not perfect, but has "rather more dark speckling on the forewings between the veins than in my specimens from Wicken Fen".

FIRST RECORD, 1948: St. Mary-in-the-Marsh (P. le Masurier),

## CUCULLIINAE

**Cucullia umbratica** L.: Shark.

Native. Marshes, waste places, etc.; foodplant unknown. Recorded from all divisions, and apparently fairly generally distributed, but with perhaps a preference for low-lying areas.

The moth has been taken at rest on fences, and occasionally at light; also at various blossoms, e.g. at White Campion, Great Chart, June 23 1956 (C.-H.). There are very few instances on record of plenteousness; Shepheard-Walwyn (*Entomologist*, 28: 233) noted that in 1895, it was abnormally abundant over valerian; and at Dungeness, R. E. Scott recorded a total of 86 *umbratica*, in his m.v. trap, May 28-July 17, 1962, with maximum (14) on July 13.

A. M. Morley (*in litt.*) writes that in 1932, he found larvae near the railway crossing at Dungeness on July 23 (2), August 3 (2), 10 (3); he says: "all these were wandering on the shingle at night, apparently looking for a place to pupate . . . it is a most unattractive creature". From these, three moths were reared in 1933: June 2 (♂), July 1 (♀), 5 (♂).

FIRST RECORD, 1861: West Wickham (Fenn, *Diary*, 29.vi.1861).

**C. asteris** Schiff.: Starwort.

Native. Woods, saltmarshes; on *Solidago virgaurea*, *Aster tripolium*, *Artemisia maritima*.

1. Birch Wood (Douglas, *Zoologist*, 333, 484). West Wickham, larvae, 1866 (Miller, *Ent. Ann.*, 1867: 153). Bexley; Eltham (V.C.H. (1908)). Shooters Hill; West Wood (*Wool. Surv.* (1909)). Orpington, 1948 (L. W. Siggs); one, in m.v. trap, August 3, 1963 (R. G. Chatelain).

2. Greenhithe\* (Farn MS.). Shepphey, bred, in Hope Dept., Oxford (R. F. Bretherton). Chetney Marshes (H. C. Huggins). Dartford; Greenhithe; larvae common on *A. tripolium* (B. K. West). Faversham, larvae common (W. B. L. Manley). Graveney, larva on *A. tripolium*, September 13, 1964;

Stoke Salttings, larvae on *A. tripolium*, September 18 (6), 22 (4), 1965, mostly full-grown (C.-H.).

3. Fordwich\* (Cox, *Ent. week. Int.*, 2: 156). Thorndean [Thornden Wood], five, bred, June 1905, in J. P. Barrett coll. (C.-H.).

4. Sandwich, imago at sugar, July 24, 1938 (J. O. T. Howard, teste A. J. L. Bowes, *Diary*). Ebbsfleet, took 60 or more larvae in 1 hour on *A. tripolium*, August 23, 26, 1939; several larvae by A. G. Peyton and his wife on *A. maritima*, August 27-28, 1939 (Bowes, *Ent. Rec.*, 52: 77).

5. Westerham (R. C. Edwards).

6. Otford, one imago (W. B. L. Manley).

6a. Darent wood (see *First Notice*); 1864 (Meek, *Ent. mon. Mag.*, 1: 191); 1871, 1873 (Bryant, *Entomologist*, 6: 198, 565); larvae on *S. virgaurea*, August 1939, reared May 23-June 4, 1940 (F. T. Grant).

7. Wigmore Wood (Chaney (1884-87)). Westwell, at light, 1951 (L. C. Bushby, teste E. Scott).

8. Deal\* (Harding, *Ent. week. Int.*, 4: 141). Folkestone\*, mid July, 1865, flying by day (Knaggs, *Ent. Ann.*, 1866: 155) (Folkestone Warren, one, flying in sunshine (Knaggs (1870)), may refer). Folkestone\* (1890) (Carpenter, teste Barker, *Entomologist*, 23: 326). [Park Wood] (Kettlewell, *Ent. Rec.*, 43: 114). Covert Wood (H. C. Huggins).

10. Seal, 1873 (Danby, *Entomologist*, 6: 517; Bryant, *idem*, 565). Seven-oaks, at light, 1949-51 (F. D. Greenwood). Westerham (R. C. Edwards).

11. Wateringbury; Yalding (V.C.H. (1908)). Benenden (G. V. Bull). Wateringbury, larvae, reared 1932 (J. Fremlin). Aylesford (G. A. N. Davis). Maidstone, one, July 21, 1953 (E. Philp).

12. Ham Street.—“Woods of the Weald” (Scott (1936)); noted by many observers in Orlestone Woods, mostly as larvae, which are always present there on *S. virgaurea*, July-September, and in abundance some years; imagines have only occurred to me severally, mostly at light, but I once netted one at dusk imbibing at Butterfly Orchis, June 6, 1948, and it has also occurred at honeysuckle (C.-H.). Warehorn, larva, September 5, 1934 (Bull, *Diary*).

13. Bidborough, 1895 (Shepheard-Walwyn, *Entomologist*, 28: 233). Free Heath, Tunbridge Wells (Knipe (1916)). Cranbrook, one, 1956 (D. Streeter).

14. Sandhurst, one, July 5, 1936, one at valerian, July 16, 1942; Marsh Quarter, larva, September 18, 1945 (Bull, *Diary*).

16. Folkestone Town (Morley, *Ent. Rec.*, 64: 171); two or three, 1951-54 (A. M. Morley).

FIRST NOTICE, 1821: “On 24th September, 1821, at Darent, in a part of the wood which had been cut down the preceding spring, I found three larvae feeding on the flowers of *Solidago virgaurea* . . . ” (Blunt, in Curtis, *Br. Ent.*, 45).

#### **C. chamomillae** Schiff.: Chamomile Shark.

Native. Waste ground, cornfields, etc.; on *Tripleurosperum maritimum*, “*Matricaria*”, “*Anthemis*”.

1. Near Birch Wood (see *First Record*). Since when it has been noted from many localities in this division, mostly as single moths at light and on fences, and sometimes as larvae. Recent records are: Petts Wood, 1947 (2) (E. Evans). West Wickham, a larva, 1950 (R. F. Birchenough); imagines in m.v. trap, April 29 (2), May 11 (2), 1963 (C.-H.). Orpington, 1954 (L. W. Siggs). Abbey Wood, 1954 (C. Hards, teste Showler, *Ent. Rec.*, 68: 167). Bromley, June 1, 1960 (1), April 17, 1961 (1) (D. R. M. Long).

2. New Brompton, one on fence, May 25, 1873 (Chaney (1884-87)). Chatham Dockyard, larvae (Mathew, *Entomologist*, 25: 16). Seasalter, a full-grown larvae feeding voraciously on *Tripleurospermum maritimum* at 2.45 a.m., June 26, 1952 (C.-H.). Faversham, larvae, June 27, 1954; June 26, 1955 (Marsh and Youden, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 85, 1955: 76).

3. Bysing Wood (H. C. Huggins). Whitstable (P. F. Harris). Eddington (D. G. Marsh). Broad Oak, one at light, April 26, 1952 (C.-H.).

4. Sandwich, May 18, 1902 (1), in J. P. Barrett coll. (C.-H.). Plucks-gutter (H. C. Huggins). Reculver, May 1, 1931; between E. Stourmouth and Preston, larvae on *Matricaris*, June 25 (7), 26 (several) 1936 (A. J. L. Bowes, *Diary*). Ickham, occasionally at m.v.l., 1954-59 (D. G. Marsh).

5. Westerham (R. C. Edwards) Halstead (R. E. Frampton, teste S. Wakely).

6. Pinden; Longfield; Horton Kirby (E. J. Hare). Gravesend, one on street lamp, May 3, 1921 (F. T. Grant).

6a. Darenth Wood; Stone Wood (H. C. Huggins).

8. Folkestone\* (Ullyet (1880)). Near Barham (Morley (1931)). Dover, larvae on the Cliffs, found by A. M. Morley; one at light in the town, April 24, 1938 (E. & Y. (1949)). Canterbury, one at light, c. 1946 (J. A. Parry). Brook, one, May 15, 1963 (Scott (1964)).

9. Margate, 1901 (1), 1903 (2), in J. P. Barrett coll. (C.-H.); one, 1905 (Barrett, *Entomologist*, 38: 214). Broadstairs, one, May 15, 1916 (J. W. C. Hunt). Cliftonville, one worn, June 4, 1954 (W. D. Bowden).

11. Sevenoaks Weald, April 24-25, 1960 (2), at m.v.l. (E. A. Sadler). Tonbridge, on fence in Somerhill Park, 1917 (E. D. Morgan). Aylesford (G. A. N. Davis). Hoads Wood, larva on Stinking Mayweed, and reared (P. Cue); "the larvae lie curled in the open flowers of *Matricaria* and *Anthemis*" (Scott (1964)).

12. Ashford, moth on fence, May 4, 1949 (Scott (1950)). Willesborough, lavra, 1951 (P. Cue); May 11-26, 1954 (4), May 22, 1955 (1), May 7, 1956 (1), May 3-19, 1957 (2), June 3, 1963 (1), May 22-23, 1964 (2) (W. L. Rudland). Wye, May 11, 1954 (1), May 19-20, 1955 (2), April 30-May 1, 1956 (3) (W. L. Rudland).

13. Pembury, 1912, singly on fences; Tunbridge Wells, on fence, 1914; Langton, on fences (E. D. Morgan). Tunbridge Wells, "on mayweeds, etc., in plenty certain years" (Given (1946)).

14. Sandhurst (G. V. Bull). Tenterden, 1960 (C. G. Orpin).

15. Dungeness, one in m.v. trap, May 19, 1962 (R. E. Scott).

16. Folkestone (A. M. Morley). Sandgate, 1960 (1) (N. Reay-Jones).

VARIATION.—Morley (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1952-53: 42) exhibited ab. *chrysanthemi* Hübn., Folkestone, 1952.

FIRST RECORD, 1829: Near Birch Wood (Stephens, *Haust.*, 3: 90).

#### C. *gnaphalii* Hubn.: Cudweed.

Native. Woods; on *Solidago virgaurea*. Mainly Wealden, where it is local and fairly scarce. Probably long extinct in 1.

Obs.—W. A. Cope told me that at Wateringbury, Goodwin used to gather lots of ova, not from the golden rod, but from brambles and twigs nearby. These he would sleeve out, and from the resulting larvae, most of which were *C. asteris*, select only those that were *gnaphalii* (C.-H.). At Ham Street, the larvae can be found on the short scruffy growth of

*Solidago* in parts of the wood which are newly out, and hide often under the terminal ring of leaves; few found among luxuriant growth (A. J. Wightman, teste A. J. L. Bowes, *Diary*).

1. Birch Wood (see *First Record*); three larvae taken by Messrs Haggard, and B. & J. Standish, September 1843 (Douglas, *Zoologist*, 806). West Wickham, larvae, August 13, 1866 (C. Miller teste Knaggs, *Ent. Ann.*, 1867: 153). Wilmington (V.C.H. (1908)).

3. Bysing Wood, one, May 1914 (H. C. Huggins).

6. Greenhithe\*, one to light trap (A. B. Farn, teste W. A. Cope) (V.C.H. (1908) probably refers).

6a. Darent Wood, three bred from larvae in possession of Mr. Double-day (Newman, *Br. Moths*, 434); (Stainton, *Man.*); two larvae, 1873 (Priest, *Entomologist*, 6: 546); one larva, 1908 (H. C. Huggins). "North Kent" [Darent?], two, July 1925, in Hope Dept. (R. F. Bretherton, *in litt.*).

8. Deal\* (1873) (Knaggs, *Ent. Ann.*, 1874: 151). West Wood, a larva, August 8, 1930 (Kettlewell, *Ent. Rec.*, 43: 114).

10. Seal, several larvae, August 10, 1873 (Danby, *Entomologist*, 6: 517); five larvae, August 1, 2 1875 (Simmons, *Entomologist*, 8: 229). Near Sevenoaks (Machin, *Entomologist*, 8: 81).

11. Wateringbury, one larva, August 24, 1894 (Goodwin, *Ent. Rec.*, 7: 278; idem, *Ent. mon. Mag.*, 32: 65; Goodwin MS.); numerous, 1899-1909 (E. Goodwin & W. A. Cope, in Goodwin coll. and W. A. Cope coll.); one larva, 1909 (H. C. Huggins); one larva, 1932 (H. S. Fremlin).

12. Ham Street.—Two imagines, June 17, 1934, by J. K. Rideout and self; occurs in all adjacent woods, 27 larvae in them in 1938 by A. J. Wightman, on *Solidago* mostly growing in clearings under faggots, etc. (A. J. L. Bowes); one, June 19, 1934 (G. V. Bull.). Imagines and larvae taken by many collectors since then. J. A. Parry beat out 21 larvae, 1947, of which all except one were parasitized; R. C. Edwards took 11 small larvae, July 23, 1950; and C. G. M. de Worms beat out five larvae, August 2, 1946. I have taken the imago as follows: Long Rope Wood, two flying low in a ride at dusk, amongst *Solidago*, June 13, 1947, three at m.v.l., July 6, 1951; Birchett Wood, one at honeysuckle, June 1, 1948 (C.-H.). May 28, 1958, at light (Reid, teste P. Cue); two, June 1955 (P. B. Wacher). In 1956, on May 28 and again in good condition on July 28 (R. F. Bretherton). One, June 4, 1950 (E. C. Pelham-Clinton); two, June 3, 1957 (P. Cue); June 27, 1962, July 15, 1963 (C. G. Bruce); one, July 15, 1962 (G. Haggatt); July 2, 1962 (de Worms, *Entomologist*, 96: 55); June 28 (1), July 25 (1), 1963 (B. K. West); June 28, 1963 (1), June 29, 1964 (1) (R. G. Chatelain)).

13. Tunbridge Wells (Barrett, *Br. Lep.*, 6: 80); taken by A. L. H. Townsend (E. D. Morgan). Southborough, one taken, July 1879 (Phipps, *Entomologist*, 25: 220).

14. Great Heron Wood, larva, 1938 (A. J. Wightman, *in litt.* to A. J. L. Bowes).

FIRST RECORD, 1836: *Cucullia solidaginis* Stephens, Birch Wood, detected here many years since by J. Standish, senr., who took one moth, but the larvae remained undiscovered until B. Standish, his son, took two in Birch Wood on *S. virgaurea* in 1832 (Stephens, *Trans. ent. Soc. Lond.*, 2: 58).

#### **C. absinthii** L.: Wormwood Shark.

Resident. Waste places; on *Artemisia absinthium*, *A. vulgaris*.

Since 1950, in which year it was first definitely noted in Kent, this species has shown a most remarkable increase and spread into new areas, and, in fact, is without doubt now present in many more localities in the county than is shown by the records, especially where *A. absinthium* is present, for which pabulum it has a most decided preference.

1. Petts Wood, one on fence July 1950 (A. M. Swain). Wilmington, five or six imagines, c. 1951-54 (T. L. Honeybourne); full-fed larva found on *A. vulgaris*, September 24, 1954 (Honeybourne, *Ent. Gaz.*, **6**: 167). Plumstead, three at m.v.l., August 7-8, 1953 (C. H. Hards). Lee, in m.v. trap, July 16, 1952 (1), July 31, 1954 (1), July 17, 1956 (1), (C. G. Bruce). Blackheath, two at m.v.l., 1959 (A. A. Allen). Plumstead, 1954 (C. Hards, teste Showler, *Ent. Rec.*, **68**: 167). Orpington, 1956 (Anon., *Proc. S. Lond. ent. nat. Hist. Soc.*, 1956: 10); three, at m.v.l., 1958 (R. G. Chatelain).

2. Dartford Marshes, ♂, on thistle flower, July 31, 1951, about 30 young larvae on *A. absinthium*, August 19, 1961, also larvae, 1962, 1963, 1964 (B. K. West); larvae very small but plentiful by tapping *A. absinthium* over a tray, August 21, 1963, with often 3-4 on the tray at a time (C.-H.). Stone, two larvae on *A. vulgaris*, imagines reared, 1960 (E. J. Hare). Higham, over a dozen larvae on *A. vulgaris*, August 12, 1962 (Trundell, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1962: 98).

4. Ickham, ♂, taken July 29, 1961 (Marsh., *Proc. S. Lond. ent. nat. Hist. Soc.*, 1961: 43); ♂, in m.v. trap, August 18, 1965 (D. G. Marsh).

6. Pinden, one at light, July 18, 1951, one, July 18, 1952, one, at light, July 27, 1956, one at light, July 24, 1957 (E. J. Hare). Otford, three at m.v.l., July 14-August 12, 1955 (W. B. L. Manley).

12. Vauxhall, near Canterbury, two nearly full-grown larvae beaten out of *A. vulgaris*, August 30, 1959, reared June 13, 25, 1960 (C.-H.).

15. Lydd-on-Sea, one, July 3, 1957 (Edwards and Wakely, *Ent. Rec.*, **70**: 93).

FIRST RECORD, 1829: "This insect used formerly to be not uncommon in the neighbourhood of London, occurring in plenty in Bunhill-fields; but for nearly half a century I believe few, if any, examples have been taken" (Stephens, *Haust.*, **3**: 91). The first definitely Kentish record, however, dates from 1950: Petts Wood (A. M. Swain).

### **C. verbasci** L.: Mullein Shark.

Native. Chalk downs, marshes, gardens, etc.; on *Verbascum thapsus*, *V. nigrum*, *Scrophularia aquatica*, "Buddleia", *Himantoglossum hircinum*.

Note: The records are mainly of larvae; the feral imago being rarely observed.

1. Birch Wood (see First Record). Kidbrook, Lee; larvae on Betony (West, *Ent. Rec.*, **18**: 230). Eltham, larva on mullein (Jones, teste Buckle and Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1899: 77). Hayes: Bexley; Lee; Eltham, at light (*Wool. Surv.* (1909)). West Wickham (V.C.H. (1903)). Chislehurst, larvae plentiful on *S. aquatica*, 1942 (S. F. P. Blyth). Petts Wood, 1950, frequent, larvae on various mullein spp. (A. M. Swain). Greenwich Park, larva on *V. thapsus* in deer enclosure, June 10, 1949 (J. F. Burton). West Wickham, 1950-53 (E. J. Trundell).

2. Plumstead Marshes (Clark, teste Buckle and Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1899: 77). Dartford\* (V.C.H. (1908)). Dartford Marshes (B. K. West). Stone, larvae on *Scrophularia* (G. Law).

3. Herne Bay, larvae common in gardens (A. J. L. Bowes). Edding-

ton, 12 young larvae on mullein in D. G. Marsh's garden, June 15, 1947 (C.-H.).

4. Near Sandwich, two larvae on figwort, June 1902 (Carr, *Entomologist*, 35: 246). St. Georges Golfcourse, Sandwich, several larvae found, June 4, 1950, on flowers of Lizard Orchis by F. Rose (F. Rose).

5. Chevening, three bred, 1915, 1917-18 (Gillett, *Diary*). Westerham (R. C. Edwards). Lullingstone, 1951 (L. W. Siggs). Downe, larvae (R. F. Birchenough, in *de Worms, Lond. Nat.*, 1955: 59).

6. Greenhithe\* (Farn MS.); larvae, June 22, 1930 (A. R. Kidner); c. 1946 (D. F. Owen). Pinden, larvae (E. J. Hare). Kemsing, larvae, 1950 (H. E. Hammond). Dartford district (B. K. West). Shoreham\*, 1950 (L. W. Siggs). Upper Halling (Hards and Gould, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1956: 78).

6a. Darent Wood (see *First Record*); 1859 (Harding, *Ent. week. Int.*, 6: 75); three larvae, June 20, 1865 (Fenn, *Diary*). Cobham, larvae annually on mullein (J. F. D. Frazer). Swanscombe, thirteen larvae, July 5, 1948, from great mullein (J. F. Burton).

7. Rochester district, larvae on mullein and figwort (Chaney (1884-87)). Boxley Hill, larvae plentiful on *V. nigrum*, pre. 1900 (F. T. Grant). Sittingbourne; Faversham; larvae on mulleins (H. C. Huggins). Westwell, common (Scott (1936)).

8. Folkestone, larvae common on mullein and water betony in the Warren (Knaggs (1870); larvae on *V. thapsus*, Warren, July 5, 1958 (Walton, *Bull. K. Fld. Cl.*, 4: 14). Whitehill Wood, Bridge (R. Goror). Wye, seven larvae, June 9, 1920 (H. G. Gomm). Stowting; Brook; Wye (C. A. W. Duffield). Dover; Elham (W. E. Busbridge). Bridge, larva on *V. nigrum*, reared (J. A. Parry). Dover, annually in and around the town, on mullein (E. & Y. (1949)). Shepherdswell, one, bred May 24, 1925, from larva (Busbridge, *Diary*).

9. St. Peters, one, May 2, 1932 (J. W. C. Hunt). Margate, 1932 (P. F. Harris).

10. Brasted (R. M. Prideaux). Sevenoaks, April 20, 1920 (Gillett, *Entomologist*, 53: 119); 1952 (F. D. Greenwood).

11. Yalding; Wateringbury (V.C.H. (1908)). Maidstone (F. T. Grant). Aylesford (G. A. N. Davis). Edenbridge, larva, 1931 (F. D. Greenwood). Shipborne (P. A. & D. J. A. Buxton coll.). Hoads Wood, larva on figwort (P. Cue).

12. Ashford, "I have found larvae in my garden in Ashford feeding on Buddleia" (Scott (1936)); at light in the town (P. Cue). Willesborough, two, May 11, 1954, one, April 14, 1955; Wye, one, May 21, 1953, one, May 10, 1954 (W. L. Rudland). West Ashford, ten larvae on *Verbascum*, in a garden, 1960 (M. Singleton).

13. Tunbridge Wells, common (E. D. Morgan). Goudhurst, two at light, 1950 (W. V. D. Bolt).

14. Sandhurst, larva (G. V. Bull). Hawkhurst, at light, also larvae (B. G. Chatfield). Tenterden, 1960 (C. G. Orpin).

16. Folkestone (A. M. Morley).

FIRST RECORD, 1829: "Not uncommon in the neighbourhood of Darent and Birch woods" (Stephens, *Hast.*, 3: 86).

#### C. scrophulariae Schiff.: Water Betony.

Resident, perhaps native. Wet places; on *Scrophularia nodosa*. No

record of occurrence since 1895, but might still exist.

2. Kent [Cuxton]\*, "In 1889, whilst collecting in Kent, I picked up six strange larvae not at all like *verbasci*, being much stumpier and less strongly marked, near a well-eaten plant of *S. nodosa*. These pupated at once and whilst three emerged last year, one has just appeared. The imagines are not at all like *C. verbasci* but are very much like *C. lychnitis*, although perhaps rather larger and more coarsely scaled, but still it would be difficult to distinguish them in the imago state" (Tutt, *Ent. Rec.*, 2: 63-64, communication dated v.1891).

Cuxton\*.—There are eight *scrophulariae* in R.C.K., det by C. Boursin, and with the following data. Nos. 1-6, "Tutt Coll., larva Cuxton '94, \*25:iv:-6:v:'99"; these six all have the same labels in the same handwriting with "C. scrophulariae"—also in the same hand—written on the reverse side; and at the bottom of this series is a large label in same writing "bred April 25th-May 6th, 1899, larvae Cuxton, 1894". Nos. 7-8, from C. R. N. Burrows coll., "C. scrophulariae true from J. W. Tutt. Bred Feb. 7, 1895, from larvae taken at Cuxton. F. Hanbury has five of the same lot; none others taken since. 29:12:'98." (R.C.K.).

"Mr. Tutt said that of some pupae of this species left dry for four, if not five years ago, two had lately emerged; he then damped the rest and put them where they could be kept heated, and two more emerged" (*Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1899: 12); this evidently refers to four of the first six of those in R.C.K. noted above.

[There is some question as to whether *scrophulariae* formerly occurred on Dartford Marshes. South (1908, *Moths Br. Isles*, 2: 37, plt. 15, fig. 3) figures a specimen as *scrophulariae*—which certainly looks like this species—and says that this example "was reared, with others, in April and May, 1877, from larvae obtained in the Dartford marshes". For years J. & W. Davis of Dartford, advertised "Scrophularia" (as they called it) for sale in their catalogue, pricing it at 4d each (in *Young Nat.*, 1882, 3 (121), 144), and later (in Davis, *Lepidoptera Collecting* (1906); and Davis, *Larvae Collector's Guide and Calendar* (1907)) at 9d each. With regard to these, Fenn (*Diary*, 10.xii.1887) wrote: "From W. Davis of Dartford I bought 6 pupae of *scrophulariae* . . . ". "They were taken about 2 miles out of Dartford, so I presume they got them in the marshes". Wightman (*Ent. Rec.*, 56: 32), however, writing in 1942, said: "Some 40 years ago I bought specimens of the Kent *scrophulariae* from Davis of Dartford, and they appeared to me to be under-sized *verbasci*. I also had larvae from Davis and these I thought agreed with *verbasci*. I might not be so sure now, but they were destroyed during the war".]

FIRST (PUBLISHED) RECORD, 1891: Kent [Cuxton] (Tutt, *Ent. Rec.*, 2: 63).

#### [*C. lychnitis* Ramb.: Striped Lychnis.]

Questionably Kentish.

I have an unlocalised specimen bearing a MS. label, "Kent 1900", but no further particulars. As the species is known from north-east Surrey, this may be right, nevertheless in the absence of confirmatory evidence the record must be treated with reserve. The most likely area for the occurrence of *lychnitis* in Kent would appear to be the chalk of division 5, and it is quite surprising that there is no known authenticated record of its occurrence in the county (C.-H.).]

## XYLENINAE

**Lithomoia solidaginis** Hüb. ssp. **cinerascens** Stgr.: Golden-rod Brindle.

Immigrant.

In 1954, there occurred a widespread invasion of *solidaginis* in southern England; altogether some twelve examples were noted, including two from Kent.

1. Abbey Wood, one, taken "at rest on the garage door", near m.v. trap, by A. J. Showler, August 28, 1954 (Showler, *Ent. Rec.*, **66**: 273).

16. Folkestone Town, one taken in an m.v. trap on September 4, 1954, by R. W. Fawthrop (Morley, *Ent. Rec.*, **66**: 255; idem, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 39).

VARIATION.—These immigrant specimens are noticeably different from our native northern *solidaginis*, and are referable to ssp. *cinerascens* Stgr., a race occurring in Central Europe, and which is described as "ash-grey, almost unicolorous".

FIRST RECORD, 1954: Abbey Wood (A. J. Showler).

**L. semibrunnea** Haw.: Tawny Pinion.

Native. Woods, copses, etc.; on ash. Scarce, becoming rare or extinct in N.W. Kent.

1. Halfway Street Woods, March 31, 1875 (Fenn, *Lep. Data MS.*). Eltham (A. H. Jones, in *Wool. Surv.* (1909)), may refer to the preceding record (C.-H.). Erith, one, October 19, 1883 (Fenn, *Diary*). Lewisham; Charlton (R. Adkin, in *Wool. Surv.* (1909)). West Wickham (W. Barnes, in *Wool. Surv.* (1909)). [(Addington, one at ivy bloom, autumn, 1950 (E. H. Wild); the place of capture is less than a mile from the Kent border, and at the edge of Spring Park (C.-H.))]

2. Sheppen.—Sheerness, one, April 10, 1869 (Walker *MS.*); "Rather freely at ivy bloom", 1871; spring and autumn, 1872 (Walker, *Ent. mon. Mag.*, **8**: 185; idem, *Ent. mon. Mag.*, **9**: 163).

3. Canterbury\*, 1874 (Dobree, *Catalogue*, 107); 1891 (Parry, *Ent. Rec.*, **2**: 290). Pine Wood, one, c. 1946 (J. A. Parry). Swalecliffe, one, 1936 (P. F. Harris). Broad Oak, one at ivy, October 8, 1938 (C.-H.).

4. Deal\* (Fenn, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1894: 71); one, in H. D. Stockwell coll. (C.-H.). Minster Marshes, one, October 28, 1951 (W. D. Bowden).

6. Greenhithe\*, 1846 (Grant, *Zoologist*, 1789). Fawkham, one, 1949 (G. Law) (Pinden (Hare, in de Worms *Lond. Nat.*, 1955: 57), refers).

6a. Darent Wood, 1846 (Grant, *Zoologist*, 1789); September 20, 1874 (A. B. Farn, teste Fenn, *Diary*).

7. Mark Oak\*, Fir Grove (Chaney (1884-87)). Belmont (H. C. Huggins). Westwell, ♂ at sallow bloom, March 16, 1935 (A. G. Peyton, teste A. J. L. Bowes, *Diary*). Godmersham, full-grown larva on ash, July 9, 1939, reared September 1939 (C.-H.). Eastwell, one, November 2, 1952 (P. Cue).

8. Folkestone\*, three (Haggard, *Entomologist*, **8**: 300); (Ulliyett (1880)); (Oldham, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1895: 52). Dover.—One, October 29, 1869 (White, *Ent. mon. Mag.*, **6**: 166); at ivy in Old Park, October 11 (1), 12 (1), 19 (1), 1901 (H. D. Stockwell, *Diary*; Stockwell coll.); October 14, 1907 (P. A. Cardew, *Diary*); two at light, March 1938 (E. & V. (1949)). Chilham\*, one, October 20, 1926 (J. W. C. Hunt).

9. Ramsgate\* (Willson, *Entomologist*, **23**: 140). Westgate, one, October 10, 1944, at ivy (C.-H.).

10. Near Sevenoaks\*, October 1866 (Gill, *Ent. Ann.*, 1867: 153).
11. Wateringbury, one, 1903, two, 1905, one, 1906, in E. Goodwin coll. (C.-H.). Yalding (V.C.H. (1908)). Tonbridge district, two, 1911 (Rattray, *Entomologist*, 45: 80). Ederbridge, at sugar, 1933-34 (F. D. Greenwood). Aylesford, one, December 1953; East Malling, one, March 1954 (G. A. N. Davis). Hoads Wood, two at sugar, 1960 (M. Singleton & M. Enfield).
12. Wye, one, September 29, 1934 (de Worms, *Entomologist*, 68: 104); at ivy, October 1, 3, 1934, October 5, 1935 (A. J. L. Bowes, *Diary*); one, October 20, 1953, one, April 14, 1954, one, June 15, 1955, all in m.v. trap (W. L. Rudland). Brook (Scott (1936)); fairly common, especially at sallow in spring (E. Scott, *personal communication*, xii. 1954). Willesborough, one, October 17, 1953, two. October 23, 1955, one, October 24, 1963, one, October 15, 1964 (W. L. Rudland). Shadoxhurst (Scott (1936)). Ham Street, March 24, 1935 (A. G. Peyton, teste A. J. L. Bowes). Ashford Town, at light, March 18, 1954, at sugar, October 31, 1954 (P. Cue).
13. Broadwater Down, 1906 (Morgan, *Lepidoptera of Tunbridge Wells* MS.).
14. Newenden, October 8, 13, 14 (2), 27 (at sugar at 3 a.m.) 1926; Hawk-hurst, October 4, 1928; Sandhurst, October 7, 1926, October 14, 17, 30, November 4, 1927, October 3, 14, 19, 1928, October 7, 1930, October 10, 1932, September 22, 24, 27, 1933, October 11, 14, 15, 23, 27, 28, 30, 1936, October 2, 4, 5 (2), 7, 8, 15, 17, 18 (2), 22, 24, 1937, October 9, 1938, September 25, 28, 1939, September 18, October 10, 1940, October 7, 1943, October 9, 17, 1946 (G. V. Bull, *Diary*). Tenterden, 1960 (C. G. Orpin).
15. Dungeness, 1932, 1934, 1935, 1938 (A. M. Morley); October 11, 1934 (J. K. Rideout, teste A. J. L. Bowes, *Diary*); one, September 26, 1938 (G. V. Bull, *Diary*); one at sugar, September 28, 1938 (C.-H.); October 1, 1938 (R. C. Edwards).
16. Hythe, many taken. October 1895 (Auld and W. H. Wiffen, teste Fenn, *Diary*); (Dannatt, *Entomologist*, 28: 307; idem, *Ent. Rec.*, 7: 86); September 23, 1934 (R. C. Edwards).

FIRST RECORD, 1847: Greenhithe and Darent Wood (Grant, *Zoologist*, 1789).

**L. socia** Hufn. (**petrificata** F.): Pale Pinion.

Resident, perhaps native. Woods, etc.; foodplant unknown. Chiefly Wealden; scarce.

3. Blean.—“Blean 1919”, five so-labelled in H. G. Gomm coll. (C.-H.).
4. Deal Sandhills, one, September 20, 1894 (Fenn, *Ent. Rec.*, 5: 273).
6. Greenhithe\* (Farn MS.).
11. Wateringbury, one, in E. Goodwin coll. (C.-H.). Edenbridge, at sugar, 1930 (F. D. Greenwood). Sevenoaks Weald, one in m.v. trap, October 13, 1960 (E. A. Sadler).
12. Ham Street, one, September 30, 1935, one, September 17, 1953 (E. J. Hare). [(Brook (Scott (1936, 1950) is erroneous (E. Scott).)]
13. Pembury, three taken (1865), one of which approached *L. semibrunnea* in its dark colouration (Weir, *Proc. ent. Soc. Lond.*, 1865: 115). Broadwater Down, several at sugar, 1906 and 1909 (E. D. Morgan). Frant Road, Tunbridge Wells, several at sugar and sallow (A. L. Townsend, teste E. D. Morgan). Goudhurst, one, at m.v.l. 1950 (W. V. D. Bolt).
14. Benenden, September 28, 1926; Newenden, October 8, 1926; Hawk-hurst, October 7 (2), 1928; Sandhurst, October 14, 1927, September 16, 27, October 6, 19, 21, 23, 30, 1928, October 12, 1929, September 18, October 16,

1930, September 16, October 9, 10, 12, 1932, November 1, 1935, October 20, 23, 1936, September 29, October 1, 10, 19, 26, 1937, October 9, 17, 1933, September 19, 21, 26, 30, October 1, 12, 1939, September 25, 28, 29, 30, November 7, 1940, October 13, 24, 1941, September 16, 23, 1942, March 11 (at sallow), 15 (at sallow) 1943, September 14, 1948. Mostly singletions at sugar, only twice at sallow, once at ivy (G. V. Bull, *Diary*).

15. Dungeness, one in m.v. trap, May 20, 1963† (R. E. Scott).

FIRST RECORD, 1865: Pembury (Weir, *Proc. ent. Soc. Lond.*, 1865: 115).

**L. furcifera** Hufn. (**conformis** F.): Conformist.

Immigrant.

Four specimens only. A fifth example, recorded as *furcifera* in error, is referable to *L. lamda* F. (q.v.).

1904: Margate, one taken by J. Platt Barrett on October 12, was at the time queried as *Antitype xanthomista* Hübn, but later confirmed as *furcifera* (Barrett, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1905-06: 96, 1911-12: 28, 56-57). I could find no trace of this specimen in the J. Platt Barrett coll. (C.-H.).

1935: Ham Street Woods, one taken by Sir Beckwith Whitehouse on the wrong side of a sugared tree, on September 28, while in the company of F. H. Lees, in whose coll. it now is (F. H. Lees, *in litt.*).

1936: Dungeness, one taken on a post by B. Embry, on September 12, 1936 (A. M. Morley); is now in G. H. Youden coll. (C.-H.).

1946: Dungeness, one taken flying near sallow by A. Riddell, while in company of A. M. Morley, on night of April 4, 1946 (A. M. Morley); now in A. Riddell coll. (C.-H.).

VARIATION.—Excepting the Ham Street specimen, which F. H. Lees (*in litt.*) says is the colour of "wet slate", and might therefore be assigned to ab. *suffusa* Tutt, Kent specimens appear referable to the normal continental form.

FIRST RECORD, 1905: Margate (Barrett, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1905-06: 96), as *A. xanthomista* in error.

**L. lamda** F.: Nonconformist.

Immigrant?

Five confirmed specimens only; all in north-west Kent, and between 1866 and c. 1902.

1866: Near New Cross, one taken September 30, by Mr. Harrington, "on the trunk of a willow tree" (Meek, *Proc. ent. Soc. Lond.*, 1866; xxxv; *Entomologist*, 3: 203; *Ent. Ann.*, 1867: 136; *Ent. mon. Mag.*, 3: 163).

1870: Darenth Wood, one taken October 3, by J. Moore, on the reverse side of a sugared tree (Moore, *Ent. mon. Mag.*, 7: 140; idem, *Entomologist*, 5: 204).

1875: Belvedere, one taken by W. Marshall at sugar in September (Bond, *Proc. ent. Soc. Lond.*, 1876: 7). Both "Belvedere" and "Erith" in V.C.H. (1908) may refer to this.

1894: Bexley.—W. Marshall "told me that a few days ago he saw a specimen of *zinkenni* (sic) in Bexley village. It had probably flown to light and fallen on the pavement where it had been promptly smashed by the foot of some passer-by. Marshall knows the insect well . . ." (Fenn, *Diary*, 11.x.1894).

c. 1902: Northfleet, "a man whose name I forget showed me a lovely *lamda* he took a rest at Northfleet about 1902" (H. C. Huggins, *in litt.*).

[“Deal, 1886, A. Austin”, in C. A. Sladen coll. sale (*Ent. Rec.*, **8**: 16); Hospital Wood, Canterbury, one, September 8, 1873, E. Edney (in R.C.K.). These are doubtfully genuine (C.-H.).]

FIRST RECORD, 1866: New Cross (Harrington, teste Meek, *Proc. ent. Soc. Lond.*, 1866: xxxv).

**L. ornithopodus** Hufn. (**rhizolitha** F.) ssp. **lactipenis** Dadd: Grey Shoulder-knot.

Native. Woods, parks, etc.; on oak.

1. West Wickham, 1859 (Barrett, *Ent. week. Int.*, **7**: 75). Dartford Heath (Jenner, *Week. Ent.*, **2**: 197). Bexley (L. W. Newman, in *Wool. Surv.* (1909)). Farnborough (W. Barnes, in *Wool Surv.* (1909)). Chislehurst, one, October 12, 1947 (S. F. P. Blyth). Petts Wood, several, February 28, 1948 (J. F. Burton) (Hyatt, in *de Worms, Lond. Nat.*, 1955: 58, may refer); 1949 (A. M. Swain). Keston, Hayes (D. F. Owen, in *de Worms, loc. cit.*).

2. Near Sheerness, two, 1871 (Walker, *Ent. mon. Mag.*, **8**: 185).

3. Church Wood, one at sugar, October, 1894 (S. Wacher MS.). Canterbury\*, 1871 (Dobree, *Catalogue European Noct.*, 107). Blean; Whitstable; Chestfield (P. F. Harris). Pine Wood; Cockering Wood (J. A. Parry). Herne Bay district, fairly common, imago on oak trunks; Pine Wood (D. G. Marsh). Den Grove, a larva on oak, June 11, imago reared September 2, 1947; Broad Oak, two at light, October 17, 1953 (C.-H.).

5. Timberden Bottom, 1949 (D. Lanktree).

6. Greenhithe\* (Farn MS.). Snodland, not uncommon on tree trunks, October 1908 (Ovenden, *Ent. Rec.*, **21**: 33).

6a. Mark Oak Wood\* (Chaney (1884-87)). Darenth Wood (H. C. Huggins); (E. J. Hare); one, April 9, 1946, one, April 14, 1949 (B. K. West). Cobham, one, on fence, September 30, 1941 (F. T. Grant).

7. Wigmore Wood; Hambley Wood, October, 1856 (Chaney, *Substitute*, 89) Hucking Hill, one at sugar, October 5, 1880 (Green, *Young Nat.*, **1** (52), 411). Fir Grove (Chaney 1884-87)). Sittingbourne; Faversham (H. C. Huggins). Westwell (Scott (1936)).

8. Folkestone\* (Ullyett (1880)). Stowting (C. A. W. Duffield). Near Whitfield, 1935 (E. & Y. (1949)). Penny Pot Wood, c. 1947 (J. A. Parry). Cuckoldscombe, one, April 16, 1953 (W. L. Rudland).

10. Sevenoaks (Hill, *Entomologist*, **19**: 185); one at rest on fence, March 20, 1940 (W. E. Busbridge, *Diary*); 1942 (F. D. Greenwood). Seal Chart (S. F. P. Blyth). Westerham (R. C. Edwards).

11. Wateringbury (E. Goodwin MS.). Edenbridge, 1933 (F. D. Greenwood). Alyesford, c. 1953 (G. A. N. Davis). Hoads Wood (Scott (1936)).

12. Brook, at ivy, October 1, 1934 (A. J. L. Bowes). Ham Street, two at sallow, March 18, 1935 (A. J. L. Bowes); one, March 15, 1938 (A. H. Lanfear); two, March 22-31, 1939, one, September 10, 1939 (C.-H.); ♂, April 4, 1963 (C. G. Bruce). Hothfield (Scott (1936)). Ashford Town (Scott (1950)); March 18, 31, 1954 (P. Cue). Wye, seven, September 28-November 16, 1953; three, March 10-April 5, 1954; one, October 7, 1955; two, March 10-April 12, four, October 3-November 6, 1956; two, January 9-March 10, 1957; Willesborough, two, October 17, 1953, one, October 8, 1955, one, March 12, 1957, one, November 1, 1964 (W. L. Rudland).

13. Tunbridge Wells, 1891 (Beeching, *Ent. Rec.*, **2**: 229). Penshurst; Speldhurst; Langton; Bayhall (Morgan, *Lepidoptera of Tunbridge Wells MS.*). Pembury, two on fence, October 1947 (W. A. Cope). Goudhurst.

one, 1953 (B. G. Chatfield); numerous (W. V. D. Bolt, *personal comm.*, 1961).

14. Tenterden (Stainton, *Man.*). Hawkhurst; Newenden; Sandhurst (G. V. Bull).

15. Dungeness, September 17, 21, 23, 1934 (B. Whitehouse MS.); one, October 10, 1938 (A. M. Morley); one on post, September 29, 1956 (R. F. Bretherton).

16. Hythe\*, one, 1895 (Danatt, *Ent. Rec.*, 7: 86). Folkestone Town, one, 1951 (A. M. Morley).

**VARIATION.**—English specimens, which are referable to ssp. *lactipennis* Dadd (*Ent. Rec.*, 23: 97), are whiter than German ones.

FIRST RECORD, 1856: Wigmore Wood (Chaney, *Substitute*, 89).

**Xylena exsoleta** L.: Swordgrass.

Suspected immigrant and resident, now very rare or extinct. Woods, etc.; foodplant unknown.

Note: Donovan (*Br. Insects*) figures *X. vetusta* Hubn. for *X. exsoleta*, and Wood (*Index Entomologicus*) has the figures of these transposed, so that it is possible some of the following records may refer to *betusta*.

1. Lewisham, one at sugar, October 20 (1845) (Stainton, *Zoologist*, 1229). Sydenham, between 1886 and 1891 (Sellon, *Ent. Rec.*, 2: 164). [Dulwich Wood (Surrey) or West Wickham, one, 1842 (Douglas, *Entomologist*, 1: 309). Eltham, occasionally; Lee, once (C. Fenn, in *Wool. Surv.* (1909)). Paul's Cray, one (G. B. Browne, in *Wool. Surv.* (1909)). Shooters Hill (A. H. Jones, in *Wool. Surv.* (1909)). Sidcup, at sugar, September 1898 and 1901 (H. E. Page MS.).

2. Near Sheerness, two, 1871 (Walker, *Ent. mon. Mag.*, 8: 185). "Isle of Sheppey J. J. Walker", one so-labelled in Hope Dept., Oxford† (C.-H.).

3. Church Wood, one at sugar, end October 1894 (S. Wacher MS.).

4. Deal\*.—Rare, 1858 (Harding, *Ent. week. Int.*, 4: 197); common, 1860 (Harding, *Ent. week. Int.*, 9: 27). Deal Sandhills, one, at sugar, September 24, 1884 (Fenn, *Diary*). Sandwich, March 22, 1904 (1), March 20 (1), September 29 (1), November 1 (1), 1906, October 5, 1907 (1); all in J. P. Barrett coll.† (C.-H.).

6. Near Longfield, April 4, 1876 (Jennings, *Entomologist*, 9: 132). Clay Lane Wood, rare at sugar, 1902-06, not every year (H. C. Huggins).

6a. Darenth Wood (see *First Record*); one, September 5, 1874 (Fenn, *Diary*). Mark Oak Wood\* (Chaney (1884-87)).

7. Rochester district.—Wigmore Wood; Fir Grove, etc.; not common; October, also at sallow bloom and sugar after hibernation (Chaney (1884-87)).

8. Folkestone\*, a larva taken (Knaggs (1870)). Near Folkestone\*, five (1875) (Haggar, *Entomologist*, 8: 300). Upper Hardres, one at sugar, end October 1894 (S. Wacher MS.). Coombe Wood, one at sallow, March 27, 1902 (H. D. Stockwell, *Diary*).

9. Ramsgate neighbourhood\*, taken "within the last few years" (Willson, *Entomologist*, 23: 140, *communicated*, 1890).

10. Brasted, one, 1909 (R. M. Prideaux).

11. Wateringbury, three, at sugar (Goodwin, *Entomologist*, 35: 195); one, bred 1911, in Goodwin coll.† (C.-H.); (V.C.H. (1908)); (W. A. Cope). Mid-Kent [Yalding], comes to sugar not uncommonly (Reid, *S. east. Nat.*, 1904: 52). Aylesford, one, 1953† (G. A. N. Davis).

13. Tunbridge Wells, one, November 1892 (Beeching, *Ent. Rec.*, 2: 230). Broadwater Down, one at sugar, 1913 (E. D. Morgan).

15. Dungeness, one at sugar, September 24, 1949 (C.-H.); one at sugar, October 4, 1964† (R. E. Scott).

FIRST RECORD, 1829: "I have taken it at Darenth-wood" (Stephens, *Haust.*, 2: 174).

**X. vestuta** Hubn.: Red Swordgrass.

Suspected resident, reinforced by immigration. Waste places, etc.; foodplant unknown. Mainly east-coastal. Note: Possibly some of the early records refer to *X. exsoleta* (q.v.).

1. Birch Wood, one, September 1843 (Stevens, *Zoologist*, 334); three, 1843 (Douglas, *Zoologist*, 484). West Wickham, one, October 8, 1859 (Bryant, *Ent. week. Int.*, 7: 43); one at sugar, April 1883 (Geldart, *Entomologist*, 16: 135). Erith, 1884 (C. Fenn. in *Wool. Surv.* (1909)). Bexley (L. W. Newman, in *Wool. Surv.* (1909)). Sydenham, between 1886 and 1891 (Selton, *Ent. Rec.*, 2: 164). Lee, September 27, 1898 (Green, *Trans. W. Kent nat. Hist. Soc.*, 1905-06: 16). Petts Wood, one in 1929, also one by F. D. Greenwood on same night in same locality (W. V. D. Bolt).

3. Broad Oak, one at sallow bloom, March 25, 1943 (C.-H.). East Blean Wood, one at m.v.l., March 28, 1956 (P. B. Wacher).

4. Deal\*, at sugar, 1848 (Stevens, *Zoologist*, 2331); specimens taken by Mr. Harding, October 1853 (*Zoologist*, 4141); 1858 (Harding, *Ent. week. Int.*, 5: 20). Deal-Sandwich Sandhills.—Three, September 24, 1884 (Fenn, *Diary*); a few, 1894 (Fenn, *Ent. Rec.*, 5: 273); Sandwich, September 11, 12, 1936, September 5, 1937, one, September 13, 1938 (A. J. L. Bowes); two, September 23, 1936 (A. H. Lanfear); four at sugar, September 25, 1933, three at sugar, September 20, 1953 (C.-H.).

5. Knockholt, one, October 2, 1875 (Fenn, *Diary*).

6. Greenhithe\*, September 1846 (Grant, *Zoologist*, 1789); (Farn MS.). Clay Lane Wood, one or two at sugar every year, c. 1905, e.g., one, October 3, 1903 (H. C. Huggins). Gravesend, one at ivy (F. T. Grant).

6a. Darenth (see First Record). Darenth Wood, taken several times (Stephens, *Haust.*, 2: 174); September 1846 (Grant, *Zoologist*, 1789); one, September 30, 1861 (Fenn, *Diary*). Chattenden, one, October 3, 1891 (Fenn, *Diary*). Mark Oak Wood\* (Chaney (1884-87)).

7. Wigmore Wood (Chaney, *loc. cit.*).

8. Near Folkestone\*, seven (1875) (Haggar, *Entomologist*, 8: 300). Folkestone\*, September 1882 (Hall, *Entomologist*, 15: 258). Whitfield, two, September 20, two, September 23, 1901; all at sugar (H. D. Stockwell, *Diary*). Dover, two, April 13, 1909 (P. A. Cardew, *Diary*). Dover Cliffs, September 15, 1933 (J. H. B. Lowe). Barfreston; West Studdal; Poulton (E. & Y. (1949)). Brook, one, September 25, 1948 (C. A. W. Duffield).

9. Ramsgate neighbourhood\*, taken "within the last few years" (Willson, *Entomologist*, 23: 140, communicated 1890). Ramsgate, c. 1890 (W. A. Cope). Margate, one, October 16, 1932 (P. F. Harris).

10. Brasted, one, 1909 (R. M. Prideaux).

11. Mid-Kent [Yalding], rare (Reid, *S. east Nat.*, 1904: 52). Wateringbury, one, 1905, in E. Goodwin coll. (C.-H.). Tonbridge, one ♀, 1916 (Rattray, *Entomologist*, 49: 284). Edenbridge, 1932-33 (F. D. Greenwood).

12. Ham Street, March 25, 1935, March 26, 1936 (A. J. L. Bowes, *Diary*); ♂, at m.v.l. April 11, 1963 (R. G. Chatelain). Ashford Town, November 5, 1953 (P. Cue, teste E. Scott). Wye, one, March 20, 1954; Willesborough, one, ♀, June 1, 1954 (W. L. Rudland).

13. Broadwater Down (Morgan, *Lep. Tunbridge Wells MS.*).
14. Tenterden, one at sugar, September (1853) (Beale, *Zoologist*, 4130). Newenden, October 3, 1926; Sandhurst, October 21, 1934, October 24, 1937 (*Bull. Diary*).
15. Dungeness, September 8, 13, 1934, October 11, 1934 (A. J. L. Bowes, *Diary*); common, September 30, 1935 (J. H. B. Lowe); G. A. Cole told me that he noted about 20 at sugar one evening c. 1938 (C.-H.); three, April 4, 1946, at sallow (A. M. Morley); one, September 28, 1938, one, September 26, 1953, both at sugar (C.-H.); one, September 19, 1953 (de Worms, *Ent. Rec.*, 66: 49); ♀, April 12, 1963 (B. F. Skinner).

16. Hythe Military Canal\*, September 21, 1934, in the daytime (G. V. Bull).

FIRST RECORD, 1829: "Mr. Stone beat a fine specimen of this moth, the beginning of September, out of a hedge in Darent Lane" (Curtis, *Br. Ent.*, 256).

**Xylocampa areola** Esp. (*lithorhiza* Borkh.): Early Grey.

Native. Woods, copses; on *Lonicera periclymenum*. Recorded from all divisions except 9; few records for 4, 15. "Generally common" (V.C.H. (1908)). . . .

The larvae have been taken at Petts Wood on honeysuckle (*L. periclymenum*), 1951, by A. M. Swain (A. M. Swain).

4. Ickham, 1954-59 (D. G. Marsh).

15. Dungeness, one, May 3, 1963 (R. E. Scott).

VARIATION.—Tutt (*Br. Noct.*, 3: 97) records ab. *suffusa* Tutt, from Strood; and de Worms (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1960: 56) exhibited "a very melanic example", Ham Street, May 7, 1960.

FIRST RECORD, 1829: "Not uncommon . . . throughout the metropolitan district" (Stephens, *Haust.*, 2: 187).

**Calophasia lunula** Hufn. (*linariae* Esp.): Toadflax Brocade.

Resident. Shingle beach, gardens, waysides, etc.; on *Linaria vulgaris*, *L. repens*.

Its headquarters is the stretch of shingle at Dungeness, in which area it has been noted annually since 1951. There is no knowledge of occurrence elsewhere in the county since 1957.

6. Stone, one larva, September 1952; two larvae 1956, imagines reared (G. Law). Pinden, one, worn, at m.v.l., June 10, 1953 (Hare, *Ent. Rec.*, 65: 323).

11. Tonbridge, three larvae, on *L. vulgaris* growing by the roadside, July 31, 1954 (Hammond, *Ent. Gaz.*, 5: 233).

12. Birchett Wood, Ham Street, one, at m.v.l., June 24, 1953; Willesborough, one, August 18, 1957 (W. L. Rudland).

15. Dungeness.—August 16, 1951, ♂ taken by E. J. Hare at Pilot Inn, at m.v.l.; two imagines, July 31, 1952; a few larvae, August 25, 1952 (Hare, *Ent. Rec.*, 65: 323; idem, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 30); ♂, August 1952 (Rudland, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1952-53: 46); September 1953, "sparsely but very generally distributed. The extreme points at which larvae were found were some three miles apart" (Robinson and Classey, *Ent. Gaz.*, 4: 304); many small larvae, June 30-July 3, 1954 (R. F. Bretherton); *Pimpla instigator* F., bred from pupae, 1955 (Hammond & Smith, *Ent. Gaz.*, 8: 186); on September 11, 1955, P. B. Wacher and I counted nearly 100 larvae of various sizes in under two hours between

the Pilot Inn and the Lighthouse; imago at m.v.l., June 1, 1956 (C.-H.); "W. Kent", bred 1956 (Davis, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1956: 25), refers to Dungeness (C.-H.); six at m.v.l., July 20-28, 1957 (E. Philp); (Wakely, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1957: 15; 1958 (de Worms, *Entomologist*, 92: 74); 1959, larvae, July 12 (C.-H., *Proc. S. Lond. ent. nat. Hist. Soc.*, 1959: 85); 1960, one at m.v.l., May 15 (Kennard, *Ent. Rec.*, 72: 173); 1961, many larvae by Lydd-on-Sea Halt, September 10 (C.-H.); some 100 larvae, and about 12 ova on tips of leaves of *L. vulgaris*, by the Old School, June 30, 1962 (R. Birchenough); a cocoon among seed-pods of *L. vulgaris* (Symes, *Ent. Rec.*, 68: 201); a cocoon, September 30, 1956 (de Worms, *Entomologist*, 90: 182); 1963, May 31 (1), June 7-28 (8), with max. (2) on June 12; July 26 (1), August 1-30 (10), with max. (2) on August 5 and 8; 1964, May 13-28 (5), June 7-28 (3), July 1-31 (7), August 3-28 (16), with max. (4) on August 4 and 11. All in m.v. trap (R. E. Scott); 1965, several larvae at Greatstone and Lydd-on-Sea, July 29; several larvae, September 5 (C.-H.).

16. Folkestone, about a dozen larvae in Miss V. P. Day's garden in Wear Bay Road, on *Linaria repens*, August 31, 1955 (A. M. Morley).

VARIATION.—Hare (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 30) exhibited a ♀ ab. with "unicolorous hindwings", bred Dungeness, 1954. Richardson (*Entomologist*, 91: 212) described ab. *extensa*, holotype ♂, from Dungeness.

FIRST RECORD, 1951: Dungeness, ♂, August 16, 1951 (E. J. Hare).

#### **Brachionycha sphinx** Hufn. (**cassinia** Schiff.): Sprawler.

Native. Woods, orchards, copses, plantations, scrub; on wych elm, ash, bramble, cultivated cherry, oak, dogwood. Apparently rare in 1.

1. Lewisham, one at light, October 31 (1845) (Stainton, *Zoologist*, 1229). Eltham, November 4, 1864, November 13, 1887 (A. H. Jones, teste Fenn, *Diary*). Lee, one, November 9, 1874 (Fenn, *Diary*). Bromley Common (H. Alderson, in *Wool. Surv.* (1909)). Bexley (L. W. Newman, in *Wool. Surv.* (1909)). West Wickham, ♂, on fence, November 1, 1963 (R. Birchenough).

2. Chatham Dockyard, larvae (Chaney (1884-87)).

3. Chestfield, several, three on one lamp (P. F. Harris). Canterbury, at light in the city, ♂♂ frequent, ♀♀ rarely; Littlebourne, ♀, 1948 (J. A. Parry). Tankerton (J. L. Atkinson). Eddington, ♀, November 9, 1947, November 11 (♂), 30 (♀), 1949, October 25 (♂), 27 (1) 1952; all at light (D. G. Marsh, *Diary*).

4. Ickham, one, c. 1956 (D. G. Marsh).

5. Westerham (R. C. Edwards). High Elms (R. G. Chatelain).

6. Greenhithe\* (W. Marshall, teste Fenn, *Diary*, 9.xii.1887). Gravesend, November 3, 1900 (F. T. Grant); at street lamps, common (H. C. Huggins). Eynesford, two larvae, June 7, 1932 (A. R. Kidner, *Diary*); ♀, at m.v.l., November 13, 1955 (C.-H.); a larva on ash, June 14, 1962 (B. K. West), Upper Halling (Hards and Gould, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1956: 78).

6a. Darent Wood (Stephens, *Haust.*, 2: 32); larva (H. C. Huggins). Chattenden (Chaney (1884-87)); larva, May 26, 1894 (Fenn, *Lepidoptera Data MS.*); larva on elm, June 1, 1925 (F. T. Grant); larva on bramble, 1956 (R. G. Chatelain). Swanscombe, ♂, October 23, 1946 (B. K. West).

7. Wigmore Wood (Chaney (1884-87)). Westwell, November 2, 1935 (A. J. L. Bowes). Bearsted (E. J. Hare). Boxley (A. H. Harbottle).
8. Crundale (Scott (1936)). Wye (E. Scott). Near Whitfield, about 30, October 31, 1938; Lydden, common, 1947 (E. & Y. (1949)). Bridge, c. 1946 (R. Gorner). Covert Wood, six, at light, October 30, 1946 (W. E. Busbridge, *Diary*). Woods near St. Radigunds Abbey, two at light, November 5, 1948 (D. G. Marsh, *Diary*).
9. Margate, November 29, 1931 (H. G. Gomm). Birchington, November 16, 1936 (P. F. Harris).
10. Stone Street, near Sevenoaks, larva, June 20, 1932 (A. R. Kidner, *Diary*).
11. Tonbridge (Raynor, *Entomologist*, 6: 79); larvae, 1948 (H. E. Hammond). Yalding, fairly common; Wateringbury, larvae on cultivated cherry (Reid, *S. East. Nat.*, 1904: 51); (V.C.H. (1908)). Shipbourne (P. A. & D. J. A. Buxton coll.). Edenbridge, at light, 1931, 1934 (F. D. Greenwood). Hoads Wood (Scott (1936)); c. 1956 (P. Cue). Aylesford, common (G. A. N. Davis).
12. Ashford (Scott (1936)). Ashford district\*, larva on dogwood (P. Cue, teste Scott (1964)). Brook, six, ♂♂, at light, October 30, 1938 (C.-H.). Charlham (P. B. Wacher). Willesborough, one, 1953, two, 1954, five, 1955, five, 1956, one, 1963, four, 1964; Wye, October 16-November 11, 1953 (116), November 1-25, 1954 (34), October 24-November 27, 1955 (42), October 16-December 3, 1956 (172), with max (48) on November 6, 1956 (W. L. Rudland). West Ashford, one at light, 1959; Orlestone, larvae common on oak, 1960 (M. Singleton). Ham Street, a larva on oak, 1963 (D. R. M. Long).
13. Tunbridge Wells, fairly frequent at light (Knipe) (1916)). Goudhurst, three at light, 1954 (W. V. D. Bolt).
14. Sandhurst, at light (G. V. Bull). Iden Green, two, 1951 (H. Boxall). Tenterden, 1960 (C. G. Orpin).
15. Canal at Ham Street (Scott (1936)). Kennardington, three larvae on wych elm, May 24, 1953 (C.-H.). Dungeness, one, October 31, 1964, in m.v. trap (R. E. Scott).
16. Near Hythe (Morley (1931)). Folkestone (Morley, *Ent. Rec.*, 64: 170); one, 1955 (A. M. Morley). West Hythe, November 4 (3), 11 (5), 1938 (A. H. Lanfear).

FIRST RECORD, 1828: Darent Wood (Stephens, *loc. cit.*).

**Bombycia viminalis** F.: Minor Shoulder-knot.

Native. Woods, marshes, copses, etc.; on sallow, "willow", "dwarf poplar", "goat willow".

1. Shooters Hill Wood, three, July 28, 1862 (A. H. Jones, teste Fenn, *Diary*) (Eltham (*Wool. Surv.* (1909)) refers) West Wickham (Wells, *Ent. Rec.*, 3: 35). Hayes (Carr, *Entomologist*, 33: 47). Chislehurst, larva; Bexley, larva (Carr, *Entomologist*, 34: 109). Chislehurst, few at sugar, one, July 17, 1908 (S. F. P. Blyth). Pauls Cray Common (G. B. Brown, in *Wool. Surv.* (1909)). Lee district, larva common (C. Fenn, in *Wool. Surv.* (1909)). Bexley Park Wood, larvae on sallow bush, May 20, 1921; Keston, larvae, June 11, 1923 (A. R. Kidner, *Diary*). Petts Wood, one at light, 1948 (E. Evans). Orpington, 1948-53 (L. W. Siggs); 1956 (several), 1957 (about 20) (R. Chatelain). Abbey Wood (A. J. Showler). Bromley, 1964 (1), 1965 (5) (D. R. M. Long).
2. Sittingbourne (H. C. Huggins).

3. Blean, three, bred 1902 (J. Platt Barrett coll.). Canterbury, many bred, July 1932, in F. A. Small coll. (C.-H.). Eddington, one or two annually since 1945 (D. G. Marsh, *pers. comm.*, iv.1955).
4. Ickham, 1954-59, a few only (D. G. Marsh).
5. Chevening, July 28, 1914 (Gillett, *Diary*). Halstead, 1925 (Frampton, *Entomologist*, **59**: 173). Westerham (R. C. Edwards).
6. Greenhithe\* (Farn MS.). Otford, larva, June 21, 1902 (Adkin, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1902: 51). Gravesend, one, bred (F. T. Grant). Clay Lane Wood (H. C. Huggins). Shoreham, dark forms (W. A. Cope).
- 6a. Darent Wood, Stephens, *Haust.*, **3**: 58; larvae on dwarf poplar, 1864 (Meek, *Ent. mon. Mag.*, **1**: 191); one, July 1, 1865 (Fenn, *Diary*); (H. C. Huggins). [Chattenden] very common at sugar (Porritt, *Entomologist*, **8**: 219). Higham neighbourhood [Chattenden], larvae in profusion on sallow (Porritt, *Entomologist*, **13**: 163). Chattenden (Chaney (1884-87)); July 26, 1888 (Fenn, *Diary*).
7. Fir Grove; Darland Hill; Wigmore Wood (Chaney (1884-87)). Sittingbourne (H. C. Huggins). Westwell, at light, July 6, 1945; August 24, 1946 (E. Scott). Bearsted (E. J. Hare). Boxley, 1953 (A. H. Harbottle).
8. Folkestone\* (Ullyett (1880)). Wye\* (Scott (1936)). Shepherdswell; Waldershare (E. & Y. (1949)).
10. Sevenoaks, July 26, 1919, July 18, 1920, August 15, 1922 (Gillett, *Diary*).
11. Wateringbury, two, bred 1907, in E. Goodwin coll. (C.-H.). Shipbourne, 1912, in P. A. & D. J. A. Buxton coll. (C.-H.). Edenbridge, at sugar, 1934 (F. D. Greenwood). Tonbridge, larvae on goat willow, 1950 (H. E. Hammond). Aylesford (G. A. N. Davis). Hoads Wood, c. 1953 (P. Cue).
12. Ashford neighbourhood\* (Chittenden, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1899: 107). Ham Street.—July 22, 1934, June 30, 1935 (A. J. L. Bowes, *Diary*); of regular occurrence in Orlestone Woods, sometimes plentiful at light, e.g. July 1951 (C.-H.); three, July 22, 1938 (A. H. Lanfear, *Diary*); larva (Scott, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1959: 77). Brook (C. A. W. Duffield). Ashford Town, c. 1953 (P. Cue). Wye, June 30-July 27, 1953 (16), July 14-August 8, 1954 (13), July 12-August 2, 1955 (2), July 17-August 10, 1956 (32); Willesborough, July 12-17, 1955 (2), July 27-August 2, 1956 (3), July 10-24, 1957 (2), July 18-19, 1958 (2), July 23-August 3, 1963 (4) (W. L. Rudland).
13. Tunbridge Wells (E. D. Morgan). Goudhurst, two at light, 1954 (W. V. D. Bolt).
14. Tenterden (Stainton, *Man.*). Rolvenden; Sandhurst (G. V. Bull).
15. Dymchurch, three larvae, June 9, 1932, imagines reared (A. M. Morley); one, 1952 (Wakely, *Ent. Rec.*, **65**: 43). Dungeness (Jackson, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1945-46: 25); 1946 (Carr, *Entomologist*, **80**: 157); July 27, 1956 (R. F. Bretherton); common, July 7-8, 1959 (C. R. Haxby, *fide* A. M. Morley); July 14-August 6, 1962 (27), July 13-31, 1963 (11), with max 5 on July 24, July 2-22, 1964 (25) with max (10) on July 15, (R. E. Scott).
16. Lower Sandgate Road, Folkestone, several larvae on sallow, May 8, 1930, imagines reared; Folkestone Town, two larvae on willow in garden, June 12, 1930, imagines reared; one, 1952, one, 1957, both in m.v. trap (A. M. Morley).

VARIATION.—Tutt (*Br. Noct.*, **3**: 50) wrote "though I have bred a large number of specimens from larvae taken in Kent, I have never obtained a

black one, although, a type specimen, with the basal half dark (blackish), and the outer half grey, occasionally occurs". Tutt (*op. cit.*) regarded the type as "perhaps the rarest form in Britain". Over sixty years have elapsed since then, however, and the type would appear to have increased much, at least in Kent. My specimens from Ham Street, taken during the period 1938-56 show that about half correspond to nymotypical *viminalis* F.; the remainder for the most part appear referable to ab. *scripta* Hüb.; I have one ab. *obscura* Stdgr., and several others transitional to this (C.-H.). The three examples (in *Entomologist*, **80**: 157; *Proc. S. Lond. ent. nat. Hist. Soc.*, 1899: 107, 1945-46: 25) referred to above, may be typical *viminalis* F.

FIRST RECORD, 1829: Stephens, *loc. cit.*

**Aporophyla lutulenta** Schiff.: Deep Brown Rustic.

Native. Chalk downs, sandhills, sea-cliffs, waste places; on blackthorn. Apparently fairly generally distributed, but seldom noted plentifully.

1. Birch Wood (Stevens, *Zoologist*, 334). Erith (C. T. Cruttwell, in *Ent. Ann.*, 1865: 111). West Wickham, 1866 (Wellman, *Entomologist*, **7**: 43); two, 1873 (Forbes, *Entomologist*, **6**: 566); (West, *Ent. Rec.*, **18**: 230); 1950-51 (E. J. Trundell); six at ivy, September 27, 1955 (C.-H.). Lee district (Bower, *Ent. Rec.*, **12**: 340). Dartford Heath, a larva found in spring 1874 by B. A. Bower, it was only about  $\frac{1}{2}$  inch long, and was found on and fed up on blackthorn (Fenn, *Diary*, 21.x.1874); larva, April 25, 1939 (A. R. Kidner, *Diary*). Holwood\* (W. Barnes, in *Wool. Surv.* (1909)). Joydens Wood, September 18, 1886; Bexley Park Wood, two at sugar, September 22, 1887 (Fenn, *Diary*). Chislehurst (Fenn, in *Wool. Surv.* (1909)). Farningham, one, 1930 (A. R. Kidner, *Diary*); one at m.v.l., one at sugar, September 20, 1963 (R. G. Chatelain). Dartford (B. K. West). Petts Wood, three, 1949, one, 1950 (E. Evans). Orpington, September 21, 1962 (R. G. Chatelain). Bromley, 1960 (1), 1962 (1) (D. R. M. Long).

2. Sheerness (Walker, *Ent. mon. Mag.*, **8**: 185). Greenwich Marshes, "I found a pupa in the stem of burdock" (West, *Ent. Rec.*, **18**: 230). Chalk, 1911-14, 1922-25; plentiful at ivy, with a maximum of 19 on September 23, 1913 (F. T. Grant).

3. Broad Oak, two at light, September 9, 1945, two at m.v.l., September 21, 1951 (C.-H.). Canterbury, one at light (J. A. Parry). Whitstable (P. F. Harris). Herne Bay, one or two annually (D. G. Marsh).

4. Deal (Harding, *Ent. week. Int.*, **5**: 20); 1863 (Knaggs, *Ent. Ann.*, 1864: 128); six, September 15-24, 1884 (Fenn, *Ent. Rec.*, **5**: 273). Reculver, September 27, 1933, September 20, 23, 24, 1935 (A. J. L. Bowes, *Diary*). Sandwich, September 13, 14, 1936 (A. J. L. Bowes, *Diary*); usually a few at sugar and ivy; six, September 20, 1953 (C.-H.). Ickham, one or two most years, 1954-59 (D. G. Marsh).

5. Chevening, September 8, 16, 1914; September 12, 1916 (Gillett, *Diary*). High Elms, four at sugar, September 14, 1963 (R. G. Chatelain).

6. Gravesend (Jennings, *Entomologist*, **4**: 116); September 12, 16, 1911; September 24, 1926 (F. T. Grant). Greenhithe\* (A. B. Farn MS.). Lower Halling (Foreman, *Ent. Rec.*, **16**: 297). Clay Lane (H. C. Huggins). Shoreham, common at sugar (S. F. P. Blyth). Fawkham; Horton Kirby; numerous (E. J. Hare). Otford, about twenty-four in m.v. trap, 1955-56 (W. B. L. Manley).

6a. Darent Wood, September 26, 1874; September 24 (4), 27 (6), 1887 (Fenn, *Diary*); two, September 17, 1925 (F. T. Grant). Mark Oak Wood\*

(Chaney (1884-87)).

7. Wigmore (Chaney (1884-87)). Chestnut Street (H. C. Huggins). Westwell, annually (E. Scott, *pers. comm.*, xii.1954).

8. Folkestone\* (Ullyett (1880)). Whitfield, September 16 (6), 19 (2), 23 (1), 27 (1), 1901; all at sugar (H. D. Stockwell, *Diary*). Wye (Scott (1936)). Brook\* (C. A. W. Duffield). Barfreston, September 11, 1937 (1), September 17 (4), 22 (4), 1938 (W. E. Busbridge, *Diary*). Dover, September 13, 1933 (J. H. B. Lowe); (Gardiner, *Ent. Gaz.*, **10**: 8). Whinless Down; Poulton; West Studdall (E. & Y. (1949)).

9. Margate, 1907, in J. P. Barrett coll. (C.-H.); (P. F. Harris) Northdown, one, September 28, 1921 (H. G. Gomm). Kingsgate (H. C. Huggins).

10. Sevenoaks, September 18, 1918; September 8, 1922 (Gillett, *Diary*).

11. Shipbourne, four, 1911 (Buxton, *Ent. Rec.*, **23**: 314). Tonbridge district, four at sugar, 1911 (Buxton, *Entomologist*, **45**: 80). Aylesford, numerous, 1953 (G. A. N. Davis).

12. Ashford, October 1, 1948 (E. Scott); c. 1953, two, 1957 (P. Cue). Wye, one, September 25, 1953 (W. L. Rudland). Willesborough, one, September 26, 1955; one, September 27, 1963 (W. L. Rudland); one, October 1959 (M. Singleton). West Ashford, one, 1957 (M. Enfield); several, 1959, 1961 (M. Singleton).

13. Tunbridge Wells (Knipe (1916)); at sugar around the High Rocks (Given (1946)). Pembury (V. M. Sage), Goudhurst, one at light, 1953 (W. V. D. Bolt).

114. Tenterden, one (Beale, *Zoologist*, 4130).

15. Dungeness, one, September 26, 1936, taken by D. Smart; a number of others taken since (A. M. Morley, *in litt.*, 22.viii.1958).

16. Folkestone, one, October 10, 1954, one, 1955 (A. M. Morley).

VARIATION.—Tutt (*Br. Noct.*, **3**: 56) recorded ab. *consimilis* Steph., one, near Strood; and Hare (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1961: 34) exhibited a "grey form", taken Pinden, 1961. One, taken Ickham, 1960, and exhibited by Marsh (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1960; 40), is described as an "unusually grey aberration".

Fenn (*Proc. S. Lond. ent. nat. Hist.*, 1894: 71) recorded a banded form from Deal; and a strikingly marked banded ♀ from Kent, is figured by Barrett (*Br. Lep.*, **4**, plt. 166, fig. 1b).

Routledge (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1894: 26) remarked that in 1888, "both vars *sedi* Guen. and *luneburgensis* Fr. of *E. lutulenta* had been captured at Darenth Wood". (I doubt if these names have been correctly applied (C.-H.).)

Stephens (*Haust.*, **2**: 110) described abs. *consimilis* and *orthostigma*, from Birch' Wood.

FIRST RECORD, 1829: Birch Wood (Stephens, *Haust.*, **2**: 110).

#### A. *lunula* Stroem (*nigra* Haw.): Black Rustic.

Immigrant? Waste places, etc. Only three confirmed examples. No ascertained occurrence prior to 1951.

[1. Shooters Hill, June (Stephen, *Haust.*, **2**: 111), is probably erroneous. Farnborough (South, *Entomologist*, **33**: 271), is doubtful and unconfirmed, and I suspect refers to *A. lutulenta* (C.-H.)]

[6a. Darenth (West, *Ent. Rec.*, **18**: 230). The above remarks re. South's record likewise apply here (C.-H.)]

11. East Malling, one in m.v. trap, taken 1951, by G. A. N. Davis, and

in his coll.† (C.-H.).

15. Dungeness, one at sugar, September 26, 1953 (B. J. McNulty and C.-H.); is in B. J. McNulty coll. (C.-H.).

16. Folkestone Town, ♂, in m.v. trap, October 17, 1952† (Morley, *Entomologist*, 86: 67; idem, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1953-54: 38); is in A. M. Morley coll. (C.-H.).

[((Bromley (Lawrence, *Entomologist*, 33: 271), refers to *A. lutulenia* (idem, *Entomologist*, 33: 306). Chevening (Prideaux, *Entomologist*, 47: 303), refers to *A. lutulenta* (Gillett, *Diary*).)]

FIRST (CONFIRMED) RECORD, 1951: East Malling (G. A. N. Davis coll.).

**A. australis** Boisd. ssp. **pascuea** Humph. & Westw.: Feathered Brindle.

Native. Coastal sandhills, shingle beach, casually elsewhere; on "grasses".

4. Deal-Sandwich Sandhills.—1848 (see *First Record*); October 1853 (Harding, at Soc. Br. Ent., in *Zoologist*, 4141); rare, 1860 (Harding, *Ent. week. Int.*, 9: 27); 1867 (Harding, *Entomologist*, 3: 354); 1870 (Douglas, *Ent. mon. Mag.*, 7: 138); took 144 at sugar, September 17-27, 1894 (Fenn, *Lep. Data*, MS.); "abundant" (V.C.H. (1908)); "larvae at Sandwich in April feeding on various plants—examine everything—the only brightly coloured larva there"; September 5, 9 (1, worn), 12 (common at light), 14 (many emerging on posts) 1936, September 4 (♂♂ worn), 12 (few at sugar) 1937, September 13, 1938 (♂) (A. J. L. Bowes, *Diary*); larvae at night in April feeding on grasses (E. & Y. (1949)); I have never failed to see it at Sandwich about mid September; plentiful, 1938; October 7, 1950 (4); September 20, 1953 (numerous) (C.-H.).

7. Westwell, ♂, September 22, 1952, taken by E. Scott (C.-H. coll.).

8. Folkestone district\* [Deal?] (Mackie, *English's Guide to Folkestone* (1859)).

9. Ramsgate neighbourhood\* (Willson, *Entomologist*, 23: 140). Margate,\* (in Hope Dept., teste, R. F. Bretherton).

15. Dungeness, ♀ bred 1935 ex pupa (A. J. L. Bowes, *Diary*); 1938, 1949, 1953 (C.-H.); September 19, 1953; September 22, 1957 (R. F. Bretherton); October 6-21, 1962 (195), in m.v. trap, with max (42) on October 9; September 22-October 12 (34), with max. (10) on September 22; September 6-October 7, 1964 (73), with max. (19) on September 25 (R. E. Scott); common, September 15, 1964 (T. W. Harman). Lydd Village, 1949 (C.-H.); on gas lamp, September 23, 1955 (R. F. Bretherton). Dungeness Ranges, Hope and Anchor Road, September 22, 1954, at m.v.l. (W. L. Rudland) Littlestone, at street lamp, September 17, 1936 (2) (A. M. Morley).

16. Hythe\*, 1895 (Dannatt, *Ent. Rec.*, 7: 86).

VARIATION.—British specimens are referable to ssp. *pascuea* Humph. & Westwd, which is briefly diagnosed as having the thorax and forewing whiter, the latter with the markings more prominent.

Kentish *australis* are generally larger, and with the markings on forewing less contrasting than those I have seen from the Isle of Wight. There is considerable variation in the degree of darkness on the forewing; a ♂ taken at Dungeness, 1949, is referable to ab. *ingenua* Frr. (C.-H., *Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 21); and another similar example was taken by A. J. L. Bowes at Sandwich in 1937. R. E. Scott showed me a number of melanic *australis* which he took at Dungeness in 1961; some were referable to *ingenua* Frr., but several others were much darker than

this, and of an almost unicolorous blackish, with the markings hardly perceptible (C.-H.). At Dungeness, in 1962, Dyson (*Entomologist*, **96**: 116) records the capture there of two "black specimens"; on October 13. Wightman (*Ent. Rec.*, **74**: 237) and Wightman and Haggett (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1962: 32) give some account of the various forms taken at Dungeness in 1962, with special reference to the very dark ab. noted above; their exhibit is recorded as having included the following:—typical *australis* Boisd., ab. *pascuea* Curt., ab *albidior* Bang Haas, ab. *scriptura* Freyer, ab. *ingenua* Freyer, and "two other aberrant forms, one of which has a broad black outer marginal band, the other a dark marginal band on hindwings".

FIRST RECORD, 1848: Deal (Stevens, *Zoologist*, 2331).

#### **Allophyes oxyacanthalae** L.: Green-brindled Crescent.

Native. Woods, hedgerows, bushy places, etc.; on sloe, hawthorn. In all divisions. Few records for 4, 15. "Generally common" (V.C.H. (1908)).

There are numerous records of the finding of the larva on sloe and hawthorn; e.g. Blackheath, larvae twice found on hawthorn hedge and reared, 1955, 1956 (A. A. Allen); larvae not uncommon in some years on hawthorn in woods near Bromley: one taken there April 25, 1948 (D. Lanktree); on sloe at Chislehurst (D. R. M. Long); Lewisham, larva on sloe, April 15, 1861 (Fenn, *Diary*).

4. Minster Marshes, one, October 28, 1951 (W. D. Bowden). Ickham (D. G. Marsh).

15. Dungeness, one, September 27, 1935 (A. M. Morley); one, October 1, 1963 (R. E. Scott).

VARIATION.—The following may be assigned to ab. *capucina* Mill. Lewisham (see *First Record*). Lee, one, 1862; Chattenden, one, 1894 (Fenn, *Diary*). Farnborough (Tutt, *Br. Noct.*, **3**: 61). Wateringbury, numerous, 1907, in Goodwin coll. (C.-H.). Chislehurst (Sperring, *Ent. Rec.*, **22**: 15). Tunbridge Wells, scarce (Knipe (1916)). Dartford, not uncommon (B. K. West). Petts Wood, "one at light annually 1947-50, including two *capucina*" (E. Evans). East Malling, two, 1951 (G. A. N. Davis). West Wickham, in 1956, at ivy, I noted 7 *capucina* out of a total of 15 *oxyacanthalae* (C.-H.).

FIRST RECORD, 1846: Lewisham, abundant at sugar, October 12-31 (1845), including one "brown variety" (Stainton, *Zoologist*, 1229).

#### **Gripesia aprilina** L.: Merveille du Jour.

Native. Woods, parkland; on oak.

1. Bexley Park Wood, one, October 8, 1887 (Fenn, *Diary*). Pauls Cray Common, two, October 27, 1888 (Fenn, *Lep. Data MS.*). Orpington (W. Barnes, in *Wool. Surv.* (1909)). Eltham (C. Fenn, in *Wool. Surv.* (1909)). Petts Wood, 1946 (A. M. Swain). Chislehurst, one on oak trunk, September 29, 1947 (S. F. P. Blyth). West Wickham, one, October 4, 1947 (E. J. Trundell).

3. Canterbury, 1891 (Parry, *Ent. Rec.*, **2**: 290); at sugar, October 1893 (S. Wacher MS.). Den Grove, larva on oak trunk, May 16, 1925 (H. G. Gomm, *Diary*). Pine Wood, larvae, c. 1946 (J. A. Parry). Herne Park, five pupae dug at foot of oaks, August 10, four imagines reared, September

1945; Broad Oak, one at light, October 17, 1953 (C.-H.).

4. Ickham, one in m.v. trap, 1959 (D. G. Marsh).

5. Chevening, several, 1912 (Gillett, *Diary*).

6. Greenhithe\* (A. B. Farn MS.). Clay Lane Wood (H. C. Huggins). Romney Street, two at m.v.l., October 2, 1964 (T. Peet).

6a. Darent Wood (Stephens, *Haust.*, 3: 25). Chattenden (H. C. Huggins). Cobham Park, one, September 22, 1943 (F. T. Grant). Mark Oak Wood\* (Chaney (1884-87)).

7. Wigmore Wood; Fir Grove (Chaney (1884-87)). Hucking Hill, five, October 5, 1880 (Green, *Young Nat.*, 1 (52): 411).

8. Dover (Stephens, *loc. cit.*); one, 1939 (B. O. C. Gardiner). St. Radigunds, several taken by Mr. Hay, October 10, 1908 (P. A. Cardew, *Diary*). Whitfield-Waldershare area (E. & Y. (1949)).

10. Brasted, at sugar, 1909 (R. M. Prideaux). Knowle Park, pupa, September 26, 1912 (Gillett, *Diary*). Sevenoaks, pupae (F. D. Greenwood). Westerham (R. C. Edwards).

11. Wateringbury (E. Goodwin MS.); (V.C.H. (1908)). Shipbourne (P. A. & D. J. A. Buxton coll.). Edenbridge, common at sugar, 1930-34 (F. D. Greenwood). Hoads Wood, about 60 at sugar one night c. 1935, with A. G. Peyton (E. Scott); not common, c. 1953 (P. Cue). Tonbridge, larvae, 1940 (H. E. Hammond). Aylesford (G. A. N. Davis). Sevenoaks Weald, at m.v.l., September 22, 27, 30, October 1, 6, 11, 13, 1959; four, October 6-23, 1960 (E. A. Sadler). Smarden, pupae dug from oaks, August 17, 1960 (C. R. Haxby and J. Briggs).

12. Hothfield, one, 1917, one, September 26, 1929 (J. W. C. Hunt). Long Rope Wood, larvae in chinks of bark of oak trees, May 1948 (C.-H.). Brook\*, at light (E. Scott). Ashford Town, October 10, 22, 1954 (P. Cue). Willesborough, one, October 8, 1954, one, October 19, 1956; Wye, four, October 6-22, 1953, two, October 3, 1955, one, October 21, 1956 (W. L. Rudland). Bourne Wood, larvae, May 28, 1955 (Scott, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1955: 72). Ham Street Village, 1959 (de Worms, *Entomologist*, 93: 199). Faggs Wood, one at sugar, September 7, 1963 (R. L. Harvey).

13. Tunbridge Wells, 1891 (Beeching, *Ent. Rec.*, 2: 229); common (E. D. Morgan). Pembury, c. 1950 (V. M. Sage). Goudhurst, numerous at light (W. V. D. Bolt).

14. Sandhurst; Hawkhurst (G. V. Bull). Tenterden, 1960 (C. G. Orpin).

16. Folkestone (A. M. Morley). Sandgate, one, 1960 (N. Reay-Jones).

FIRST RECORD, 1829: Stephens, *loc. cit.*

#### [**Trigonophora flammea** Esp. (**empyrea** Hübn.): Flame Brocade.

Suspected immigrant.

There seems no reason to doubt that *flammea* may have occurred in south-east Kent during the period of its temporary establishment in E. Sussex in the latter half of the 19th century, but as none of the records is confirmed, it cannot be included here without reservation.

8. "Folkestone Warren 11.7.92", one, so-labelled, in A. B. Farn's handwriting, and given by him to S. H. Kershaw (S. H. Kershaw, *in litt.*).

15. "Romney Marshes, ex Fenn Collection", twelve specimens so-labelled in E. D. Bostock coll. (E. D. Bostock, *in litt.*). [Romney Marsh?] two specimens labelled "S. Kent"; and another labelled "S. E. Kent" in A. B. Farn's handwriting, who gave them to S. H. Kershaw (S. H. Kershaw,

*in litt.*). A. M. Morley (*in litt.*) writes that many years ago he was told it used to occur at "the Hythe end of Romney Marsh", but cannot recall the name of his informant.]

[**Eumichtis satura** Schiff. (**porphyra** Esp.): Beautiful Arches.

Doubtfully genuine.

8. Kent\*, one taken by Mr. Edney, August 1873; Braborne [Brabourne] Downs, one taken by G. Parry, end of July 1875, two taken by Mr. Edney (in August) 1875 (Parry, *Entomologist*, 8: 229). Kent\*, "On the 19th August, G. Parry sent me a fine female *H. satura* alive, and on the 24th a second specimen, a male; this he sent me also alive" (Hodgkinson, *Entomologist*, 25: 244, communication dated 31.viii.1892). September 22, 1892, "A letter from J. Parry of Church Street, Canterbury, in which he says he has taken 3 *satura* this season" (Fenn, *Diary*). In H. T. Stanton coll. (in BMNH, S. Kensington) are four *satura*, each of which is labelled "Crundale 28/viii/1892 G. Parry" (C.-H.).]

**E. adusta** Esp.: Dark Brocade.

Resident? Chalky places, etc. Very scarce and uncertain in appearance.

Note: This moth is frequently misidentified, so that whenever possible I have made a particular point of checking the determinations.

1. Eltham (A. H. Jones, in *Wool. Surv.* (1909)). [West Wickham (V.C.H. (1908)). Abbey Wood (Juby & Hards (1925)). These could be right, but I prefer to accept them with reserve for the reason stated above.]

5. Farnborough (H. Alderson, in *Wool. Surv.* (1909)). Chevening, June 2, 1913, May 31, 1914 (Gillett, *Diary*). Halstead, one†, June 1, 1916 (R. E. Frampton, in S. Wakely coll.).

6a. Darenth Wood (Douglas, *Zoologist*, 3218).

8. Ewell Minnis, June 15, 1935 (J. H. B. Lowe). [Brook (Scott (1950)). In his interleaved copy, Scott has written against this, "Omit, False identification"; however, in Scott (1963), Brook is again given as a locality. Doubtful (C.-H.).]

9. Ramsgate, one†, June 23, one†, July 1, 1910, two†, June 16, 1913, one†, June 1921, one†, June 14, 1936; all taken at sugar (J. W. C. Hunt). Margate, five†, 1915; four† on fences at Tivoli as follows: June 2 (2), 6 (1), 7 (1), 1919 (H. G. Gomm coll.).

11. Hoads Wood, one†, July 1, 1955 (P. Cue) (Scott (1964) refers).

12. Ashford, one†, June 25, 1956 (P. Cue) (Scott (1964) refers). Wye, June 3 (1), 9 (1), 11 (1), 1953, June 18 (1), 24 (1), July 8 (1), 10 (1), 14 (2), 15 (6), 20 (1), 1955, June 11 (1), July 15 (1), 1956 (W. L. Rudland). Willesborough, June 25 (1), July 8 (1), 15 (1), 16 (1), 1955; not seen 1954 and 1956 (W. L. Rudland).

13. Tunbridge Wells, several, 1891 (Beeching, *Ent. Rec.*, 2: 230); 1892 (Beeching, *Ent. Rec.*, 3: 158). Tunbridge Wells district (M. M. Phipps, in Knipe (1916)).

15. Dungeness, ♂ at light, June 23, 1935 (A. J. L. Bowes).

FIRST RECORD, 1851: Darenth Wood (Douglas, *Zoologist*, 3218).

**E. lichenea** Hübn.: Feathered Ranunculus.

Resident, perhaps native. Waste places, gardens; on *Kentranthus ruber*, *Brassica oleracea*, *Senecio squalidus*, *Lotus corniculatus*, "Antirrhinum",

"Samphire".

Since 1948, this species has shown a marked extension of range, and has appeared for the first time on record in divisions 3, 12, 15, and 16. The comparatively large numbers registered for 15 and 16 is particularly notable, as is the remarkable spread inland into 12 of an otherwise maritime species.

3. Herne Bay, one, 1949, one, 1951 (D. G. Marsh).
4. Reculver, ♀, at ivy, September 28, 1933 (A. J. L. Bowes). Sandwich, three at sugar, September 25, 1938 (C.-H.); one, September 26, 1936, three, September 1, two, October 1, 1938 (A. H. Lanfear). Deal\*, one, September 18, 1894, at sugar (Fenn, *Ent. Rec.*, 5: 273; idem, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1894: 71).
8. Near Folkestone\*, two (Haggar, *Entomologist*, 8: 300). Folkestone Warren, larva, April 30, 1932, reared (J. H. B. Lowe); at m.v.l., September 24–October 8, 1956, with max. (17) on September 30, from midnight onwards (W. L. Rudland). Dover, three at gas-lamp, October 3, 1895, one bred 1896, one on gas-lamp, September 28, 1897, two 1900 (H. D. Stockwell, *Diary* and coll.); September 17, 1933, larva, March 19, 1935 (J. H. B. Lowe); few larvae, April 6, 1938 (A. H. Lanfear, *Diary*); larvae found on samphire and other thick-leaved plants, also on antirrhinum (E. & Y. (1949)); full-grown larvae plentiful at night at foot of cliffs E. of harbour, on wild cabbage (*B. oleracea*), also a few on *K. ruber*, March 26, 1948; five larvae only, April 3, 1954; none (by P. B. Wacher) on March 31, 1955 (C.-H.); 42 larvae at night, March 27, 1949 (D. G. Marsh, *Diary*). Barfreston (E. & Y. (1949)). Capel-le-Ferne, one larva, on *L. corniculatus*, imago reared (C.-H.).
9. Margate district, two at sugar, September 1900 (Barrett, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1900: 101). Broadstairs, one, 1944, one, 1945 (J. W. C. Hunt); 1950 (2), 1952 (1) (G. V. Bull coll.). Ramsgate, two in garden, August 22, 1949 (A. H. Lanfear). Margate, five, 1949–51; Cliftonville, one, September 20, 1954; St. Peters, five, October 1–14, 1955, one, September 25, 1957, five at m.v.l., September 20–27, 1959; Kingsgate, two, October 1, 1957, one, September 20, 1959 (W. D. Bowden, *Diary*).
12. Willesborough, one, September 23, 1957 (W. L. Rudland); one, 1959, one, 1961 (M. Singleton). West Ashford, one in m.v. trap, September 1961 (M. Enfield). Ham Street Village, October 10, 1959 (de Worms, *Entomologist*, 93: 199).
15. Dungeness, September 19–20, 1953, many, September 22, 1957 (R. F. Bretherton); common at light by the lighthouse, 1953 (D. More); October 2, 1956 (W. L. Rudland); October 7 (1), 8 (1), 15 (1), 1962, September 22 (2), 1963, September 15–17 (3), 1964 (R. E. Scott); September 25, 1964 (1) (T. W. Harman).
16. Folkestone Town, at m.v.l., 1951 (about 20) (Morley, *Ent. Rec.*, 64: 171); 1952 (12), 1953 (32), 1954 (44), 1955 (30), 1956 (31), 1957 (132), 1958 (54); a larva on *S. squalidus*, April 16, 1952, in garden (A. M. Morley). Sandgate, 1960 (a few), 1961 (25–30) (N. Reay-Jones).

VARIATION.—I have twenty Dover *lichenea*; these are large, dark olive green, less variegated with paleness than a series from Eastbourne (Sussex) in R.C.K., and for the most part appear to agree well with ab. *intermedia* S. Smith (C.-H.). In R.C.K. is ab. *albinochracea* S. Smith, one, Dover; ab. *intermedia* S. Smith, one, Dover, and holotype ♂ labelled "25.ix.09 Deal".

FIRST RECORD, 1875: Near Folkestone (Haggar, *Entomologist*, 8: 300).

**Parastichtis suspecta** Hübn.: Suspected.

Resident. Woods; foodplant unrecorded.

Note: The imago is recorded as having been plentiful in certain years, e.g. in 1888, 1908, 1920, 1926, 1933-34, and 1950.

1. West Wickham Wood, two, July 15, 1868 (Cruttwell, *Ent. mon. Mag.*, 5: 150); c. 1908 (Mannering, *Entomologist*, 43: 204); very common at sugar near aspens, 1926 (S. Wakely). Well Wood, West Wickham, one, July 12, 1947 (C.-H.). West Wickham, two, 1952 (E. J. Trundell). Paul's Cray Common, two fresh, July 21, fifteen, August 7, 1888 (Fenn, *Diary*); common one year (W. A. Cope). Chislehurst, twenty or so obtainable any evening at sugar in July 1908; also noted in 1920 (S. F. P. Blyth). Bexley Park Wood, one, July 6, 1893 (Fenn, *Diary*). Lee (G. B. Browne, in *Wool. Surv.* (1909)). Barnfield Road Wood, Bromley, plentiful one year (W. A. Cope). Blackheath, one at m.v.l., August 1, 1960 (A. A. Allen). Bromley, 1960 (11), 1961 (10), 1962 (57), 1963 (81), 1964 (57), all in m.v. trap, earliest date June 30, 1961, latest date September 1, 1962, max. (16) August 13, 1962 (D. R. M. Long).
5. Farnborough\*, good series, 1895 (Alderson, *Ent. Rec.*, 7: 183) (Holwood (*Wool. Surv.* (1909) probably refers).
6. Greenhithe\* (Farn MS.).
- 6a. Darent (Carrington, *Entomologist*, 12: 212); 1881 (Finzi, *Entomologist*, 14: 185); 1894 (James, *Entomologist*, 28: 86). North Kent [Darent Wood?] two at sugar, 1880 (Bowyer, *Entomologist*, 14: 136).
8. Folkestone\* (Ullgett (1880)).
10. Westerham (R. C. Edwards).
11. Hoads Wood, one, 1953 (P. Cue). Aylesford, 1955 (Davis, *Bull. K. Field Cl.*, 1: 6).
12. Ham Street.—Large numbers at sugar, July 31, 1933 (de Worms, *Entomologist*, 67: 102); common, 1934 (Scott (1936)); over forty, July 11, 1950 (G. H. Youden, *fide* E. Scott); occurs regularly at light, usually in small numbers (C.-H.); July 28, 1956, in Orlestone Woods (R. F. Bretherston), 1959 (de Worms, *Entomologist*, 93: 177); one, July 19, 1963 (C. G. Bruce). Potters Corner (Scott (1964)).
13. Near Pembury.—“One or two larvae have been obtained in the Pembury country” (Knipe (1916)).
16. Folkestone, ♂, in m.v. trap, July 26, 1956 (A. M. Morley).

FIRST RECORD, 1868: West Wickham Wood (Cruttwell, *Ent. mon. Mag.*, 5: 150).

**Dryobotodes eremita** F. (*protea* Schiff.): Brindled Green.

Native. Woods, parkland; on oak.

1. Birch Wood (see First Record). Bexley, 1898 (Carr, *Entomologist*, 31: 295). Joydens Wood (C. Fenn, in *Wool. Surv.* (1909)). Pauls Cray, 1900 (Carr, *Entomologist*, 34: 108); (G. B. Browne, in *Wool. Surv.* (1909)). Eltham (A. H. Jones, in *Wool. Surv.* (1909)). Shooters Hill (W. West, in *Wool. Surv.* (1909)). Chislehurst Common (S. F. P. Blyth). Sidcup, 1921, one (A. R. Kidner). Orpington, 1926 (F. D. Greenwood); common (R. G. Chatelain). Petts Wood, several, 1947, one, 1949 (E. Evans); 1951 (A. M. Swain). West Wickham, one, September 5, 1950, one, 1951 (E. Trundell). Bromley, 1960 (1), 1962 (2), 1963 (2), 1964 (4), (D. R. M. Long).
3. Canterbury\*, 1891 (Parry, *Ent. Rec.*, 2: 290). Whitehall, Canterbury, three at sugar, 1893 (S. Wacher MS.). Whitstable (P. F. Harris). Pine

Wood, at ivy (J. A. Parry). Herne Bay, one or two annually (D. G. Marsh). Kemberland, one (C.-H.).

4. Reculver, one, at ivy, September 20, 1935 (A. J. L. Bowes). Ickham, 1954-59, a few only (D. G. Marsh).

5. Farnborough\* (W. Barnes, in *Wool. Surv.* (1909)). Chevening, September 7, 1912; August 31, September 16, 22, 1914; one emerged September 2 from pupa dug July 29, 1914; September 9, 1916 (Gillett, *Diary*). Westerham (R. C. Edwards). [Downe (Birchenough, in de Worms, *Lond. Nat.*, 1954: 92). R. F. Birchenough (*in litt.*) says this is erroneous, i.e., he never reported it from Downe].

6. Greenhithe\* (Farn MS.), Gravesend (H. C. Huggins). Pinden district, common (E. J. Hare). Shoreham, larvae common, 1953 (R. G. Chatelain). Eynsford, larva on oak (D. R. M. Long).

6a. Darent Wood (see *First Record*); September 17, 1925 (F. T. Grant).

7. Sittingbourne; Faversham (H. C. Huggins).

8. Folkstone\* (Ullyett (1880)). Stowting; Brook\* (C. A. W. Duffield). Dover; River; Barfreston; West Studdal; Whitfield (E. & Y. (1949)).

9. Northdown, one on an elm trunk, September 16, 1919 (H. G. Gomm, *Diary*). Kingsgate (H. C. Huggins). St. Peters, one at light, September 24, 1959 (W. D. Bowden, *Diary*).

11. Shipbourne, abundant at sugar from September 1, 1911; not one specimen in 1910 (Buxton, *Ent. Rec.*, 23: 314). Benenden (G. V. Bull). Edenbridge, common at sugar, 1930 (F. D. Greenwood).

12. Wye, September, 13, 19, 1934 (A. J. L. Bowes, *Diary*); 1953 (2), 1954 (4), 1955 (1), 1956 (none) (W. L. Rudland). Willesborough, 1954 (1), 1955 (2), 1956 (3) (W. L. Rudland). Ashford, 1954 (P. Cue). Ham Street, 1949-51 (4) (C.-H.).

13. Tunbridge Wells, 1891 (Beeching, *Ent. Rec.*, 2: 229); (E. D. Morgan).

14. Sandhurst (Bull, *Proc. S. Lond. ent. Hist. Soc.*, 1940-41: 22). Hawk-hurst (B. G. Chatfield).

16. Sandling, 1929 (Morley (1931)). Folkestone, one in m.v. trap, September 23, 1956 (A. M. Morley).

VARIATION.—One I have, taken at West Wickham, 1951, by E. J. Trundell, is a melanic and perhaps referable to ab. *dejecta* Warren-Seitz, though the insect is blacker and the markings less blurred than is depicted in the figure (plt. 33, fig. a, in Seitz, *Pal Noct.*) representing this ab. (C.-H.).

FIRST RECORD, 1829: Darent Wood, larvae "occasionally in the greatest profusion" (Stephens, *Haust.*, 3: 34).

#### **Antitype *flavincincta* Schiff.: Large Ranunculus.**

Native. Gardens, waste places; on "Michaelmas Daisy", "Gaillardia".

Note: The species has a wide, though apparently discontinuous distribution of maritime or submaritime character, with maximum concentrations in 1, 9, 16.

1. Lewisham, one at sugar, October 22 (1845) (Stainton, *Zoologist*, 1229). Lee, one, October 1, 1862, one, September 11, 1865, one, September 28, 1887; Erith, two, September 26-27, 1876, one, September 26, 1883 (Fenn, *Diary*). Shooters Hill; Blackheath (West, *Ent. Rec.*, 18: 230). Eltham (A. H. Jones, in *Wool. Surv.* (1909)). West Wickham (V.C.H. (1908)). Abbey Wood, one, September 27, 1938 (W. A. A. Cox, *fide* C. H. Hards). Bexley Park Wood, two, October 8, 1887 (Fenn, *Diary*); September 29, 1912 (A. R. Kidner). Bexley (1897) (Alderson, *Ent. Rec.*, 9: 333); three,

October 5, 1923 (Ford, *Entomologist*, **57**: 139); one, at light, October 3, 1953 (C.-H.). Sidecup, swarms at sugar, October 1903 (Clarke, *Entomologist*, **36**: 293); fairly plentiful at sugar, October 1909, one at ivy, 1914, one, September 26, 1921, several to October 8, 1922, one, October 2, 1923, one, September 28, 1935, one at light and one on fence, September 1937 (A. R. Kidner). Chislehurst, one at rest in garden, September 29, 1907, one on paling, 1945 (S. F. P. Blyth). Dartford, larvae on Michaelmas Daisy and Gaillardia; imagines occasionally at light (B. K. West). Orpington, 1951 (L. W. Siggs); three, 1957 (R. G. Chatelain). Lee, one, 1957 (C. G. Bruce).

2. Rochester Dockyard, one, October 8, 1856 (Chaney (1884-87)).

4. Deal\* (V.C.H. (1908)). Sandwich, one, 1933 (E. & Y. (1949)); one, September 18, 1954 (W. D. Bowden, *Diary*).

6. Greenhithe\* (Farn MS.). Gravesend, at sugar and at street lamps, not common, 1910, 1911, 1912, 1914, 1923, 1926 (F. T. Grant); (H. C. Huggins). Pindin, two, 1946 (E. J. Hare). Otford, in m.v. trap, one, 1955, one, 1956 (W. L. B. Manley).

6a. Darent Wood, October 4, 1924 (F. T. Grant).

8. Dover, September 28 (1), 30 (1), 1895, September 17, 1898 (1); all on gas lamps (H. D. Stockwell, *Diary*); one in m.v. trap, September 29, 1956 (G. H. Youden).

9. Ramsgate neighbourhood (Willson, *Entomologist*, **23**: 140). Margate, 1914, 1920, 1921, 1923 (1), 1929 (1), 1932 (1) (H. G. Gomm); 1919 (F. T. Grant); in town on walls (H. C. Huggins); September 22, 1951 (1) (W. D. Bowden). Birchington, several at electric light, 1932; Westgate, three at ivy, October 5, 1938 (C.-H.). Broadstairs, larvae on Michaelmas Daisy, 1944, 1945 (J. W. C. Hunt). Ramsgate, one, August 23, 1949 (A. H. Lanfear). St. Peters, September 22, 25, 1957, September 14, 22, 24 (5), 25, 27, 1959 (W. D. Bowden, *Diary*).

10. Sevenoaks 1949 (F. D. Greenwood).

11. Wateringbury (V.C.H. (1908)). Holt Wood, Aylesford, one, September 1955 (Davis, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1955: 23); one, 1957 (G. A. N. Davis).

13. Tunbridge Wells, once bred from larva, 1907 (E. D. Morgan).

15. Dungeness, one, October 3, 1956 (W. B. L. Manley); two or three at light, September 1961 (P. Cue); October 9, 1963 (1), October 5 (1), 6 (1), 1964 (R. E. Scott). Lydd Village, one, 1956 (de Worms, *Entomologist*, **90**: 182).

16. Near Folkestone\*, two (1875) (Haggar, *Entomologist*, **8**: 300). Hythe, 1895 (Dannatt, *Entomologist*, **28**: 307, idem, *Ent. Rec.*, **7**: 86); common (Morley (1931)); in a garden in North Road, at least 12 per night at m.v.l., September 27, 1953, and September 25, 1955 (P. Cue). Folkestone Town, September 28, 1955 (A. M. Morley).

VARIATION.—I have noticed that specimens from Thanet (Margate, Broadstairs, etc.) are appreciably darker than those from Bexley and Dartford (C.-H.).

FIRST RECORD, 1846: Lewisham (Stainton, *Zoologist*, 1229).

[**Antitype chi** L.: Grey Chi.

Suspected adventive<sup>1</sup>.

1. Brockley, "one or two", between 1887 and 1890 (Turner, *Ent. Rec.*, **1**: 349); "Mr. Turner (*in litt.*) says, this 'was only a chance capture'; probably escape from breeding" (Buckell & Prout, *Trans. Cy. Lond. ent. nat.*

Hist. Soc., 1899: 76.)]

<sup>1</sup>One supposes Turner was convinced this was no more than an escape from captivity, or he would have shown greater care over recording the details. However, considering the number of records there are for the London region (cf. de Worms, *Lond. Nat.*, 1954: 103), it seems more likely the moth may have occurred as a natural casual in N.W. Kent.

**Eupsilia transversa** Hufn. (**satellitia** L.): Satellite.

Native. Woods, copses; on oak, birch, wych elm, white poplar, sallow, maple. Recorded from all divisions except 4. Few records for 2, 9, 15. "Generally common" (V.C.H. (1908)).

Normally the moth is much less frequently observed after hibernation, when it occasionally comes to sallow blossom and light. At Eynsford, however, on the night of B. K. West witnessed a most unusual and remarkable phenomenon, that of a hundred or more *satellitia* on rose hips; this was on the downs on the Shoreham side of the rifle range; only two other species were noted on the hips:

The larva has been taken at Petts Wood, on oak and birch (A. M. Swain); at Darenth Wood on oak, and by the Military Canal on wych elm (B. K. West); on white poplar at Petts Wood, on sallow at Crofton, and maple at Lullingstone Park (D. R. M. Long).

2. Sheerness (Walker, *Ent. mon. Mag.*, 8: 185). Chalk, October 24, November 2, 1912 (F. T. Grant).

9. Broadstairs, one, 1946 (J. W. C. Hunt).

15. Dungeness, several (A. M. Morley); one, September 22, 1955 (E. C. Pelham-Clinton); one, October 27, 1964 (R. E. Scott).

VARIATION.—Specimens approximating to the nymotype are of frequent occurrence; on the other hand, those corresponding to *satellitia* L. are much scarcer, and I have only seen two that conform to this: Sandhurst, one, October 25, 1948, taken by G. V. Bull, and exhibited (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1948-49: 53) is in my coll.; Ashford, one, c. 1953, taken by P. Cue (C.-H.).

FIRST RECORD, 1829: "An insect of universal occurrence throughout the metropolitan district" (Stephens, *Haust.*, 2: 163).

**Jodia croceago** Schiff.: Orange Upperwing.

Native. Woods; on oak. Usually very scarce nowadays, but decidedly more frequent some years, though never plentiful.

Note: Formerly much more widely distributed in Kent. There is no known record of occurrence outside division 12 during the past 40 years.

1. Near Woolwich (see First Record). West Wickham Wood, March 1842 (Douglas, *Entomologist*, 1: 309); one [at West Wickham], October 8, 1859, by T. Huckett (Bryant, *Ent. week. Int.*, 7: 43). Shooters Hill Wood, one taken a few years ago (Laing, *teste Fenn, Diary*) (Halfway Street (C. Fenn, in *Wool. Surv.* (1909)), may refer). Pauls Cray Common, one, March 30, 1889 (Fenn, *Diary*) (Chislehurst (V.C.H. (1908)), may refer). Bexley Park Wood, one, March 1897, by A. H. Jones (Fenn, *Diary*) (Eltham (A. H. Jones, in Buckell and Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1899: 74), may refer).

3. Selling Wood, near Faversham (Morris, *Br. Moths*, 2: 168). Canterbury\*, 1871 (Dobree, *Catalogue of European Noctuae*, 74) (Parry, *Entomologist*, 5: 446); autumn, 1891 (Parry, *Ent. Rec.*, 2: 290). Church

Wood, two taken at sugar by F. A. Small, October 1894 (S. Wacher MS.).  
Blean, four, bred 1905, in J. Platt Barrett coll. (C.-H.).

6a. Greenhithe\*, September 8-21, 1846 (Grant, *Zoologist*, 1789). Darent Wood.—September 8-21, 1846 (Grant, *loc. cit.*); (1854), by H. J. Harding (*Zoologist*, 4521); March 1856 (Harding, *Ent. week. Int.*, 1: 11); larvae (1869) (Standish, *Entomologist*, 4: 324); March 1866, about twelve at sallows, by E. G. Meek (Knaggs, *Ent. Ann.*, 1868: 116); one at sugar, September 20, 1874, by A. B. Farn (Fenn, *Diary*); six taken by Meek, March 1875 (Fenn, *Diary*).

7. Wigmore Wood, not uncommon at sugar in autumn, occurs more commonly in the spring at sallow, etc. September 15-October 24, March 16-May 31 (Chaney (1884-87)).

8. Folkestone\* (Ullyett (1880)).

10. Brasted, spring 1906 (R. M. Prideaux).

11. Maidstone [Wateringbury], 1892, 1908 (W. A. Cope coll.); one bred August 29, 1904 (J. P. Barrett coll.). Wateringbury (W. A. Cope) (V.C.H. (1908)). Yalding, often taken at sallow bloom (Reid, *S.E. Nat.*, 1904: 52) (V.C.H. (1908)).

12. Ashford, one, bred 1903 (C.-H. coll.). Bromley Green (Scott (1936)). Ham Street.—April 9, 1932 (de Worms, *Entomologist*, 66: 49); one at sugar, September 24, 1934, taken by B. Whitehouse (Lees, *Ent. Rec.*, 48: 17); one, March 22, 1935, by A. G. Peyton (A. J. L. Bowes, *Diary*); one, spring, 1936, by B. Whitehouse (F. H. Lees); March 26, 1936, by A. M. Morley, March 27, 1936, by A. G. Peyton, ♀, March 30, died June 10, 1936, by A. J. L. Bowes (A. J. L. Bowes, *Diary*); one, April 7, 1937 (de Worms, *Entomologist*, 71: 179); one, spring, 1945 (E. J. Hare); larva, June 25, imago reared September 17, 1949 (R. C. Edwards); one, spring, 1953 (E. J. Hare); two at sallow, March 29, 1953 (de Worms, *Ent. Rec.*, 65: 343); ♀, at sallow, April 2, one, September 2, one, September 18, 1954; two full-grown larvae beaten from scrub-oak in Cobbs Wood, early June c. 1959 (P. Cue). Note: de Worms (*in litt.*, 15.xi.1961) states that all his *croceago* from Kent have come from Ham Street, despite the fact that his published records for the species do not always clearly state this, e.g., the area has been occasionally recorded as "Ashford" and "Folkestone".

13. Tunbridge Wells district, scarce (M. M. Phipps, in Knipe (1916)).

14. Tenterden, one at sugar, September (1853) (Beale, *Zoologist*, 4130).

VARIATION.—Cockayne (*Ent. Rec.*, 63: 232) describes ab. *derufata*, allotype ♀, Herne Bay, 1903, A. U. Battley.

I have four ab. *fulvago* Hübn., as follows: Wateringbury, bred 1898 (1); Bexley, bred 1903, S. Walker (3) (C.-H.).

FIRST RECORD, 1720: The larva taken "near Woolwich in Kent" (Albin. *Nat. Hist. English Ins.*, facing plt. 15, fig. 22).

#### **Omphaloscelis lunosa** Haw.: Lunar Underwing.

Native. Rough grassy places; foodplant unknown. Found in all divisions.

The moth is occasionally noted at sugar and fairly frequently at ivy, but is perhaps most often taken at light. It is not usually numerous; on one occasion, however, it was observed in huge numbers. Thus, at Broad Oak (div. 3) in 1945, I estimated there were about 800 at electric light on the night of September 9-10 between 8.15 p.m. and 5.30 a.m.; the attraction being a 100 watt bulb hung over a sheet on the roof of my house; weather

conditions were cloudy, wind slight variable, temperature warm; on the previous night, operating the light from 8.15 p.m.-2.30 a.m., only four *lunosa* occurred, weather conditions being cloudy, wind moderate and gusty, temperature cool (C.-H.).

VARIATION.—The majority of Kentish specimens seem to conform to ab. *neurodes* H.-S.; and what appear to be ab. *obsoleta* Tutt, *brunnea* Tutt and *agrotoides* Guen. are frequent; but I have only four specimens of what I judge to be the nymotype. I have singletons from Broad Oak of two distinct ab. for which I can find no name; these are (a) a rosy form with pale nervures; and (b) a form with ground almost white, stigmata and subapical clearly marked, nervures hardly perceptible (C.-H.).

Tutt (*Br. Noct.*, 2: 170) records ab. *humilis* Humph. & Westwood; ab. *brunnea* Tutt; and ab. *agrotoides* Guen., from Kent; and Morley (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1962: 42) exhibited ab. *brunnea* Tutt from Kent, "with veins yellow instead of white".

FIRST RECORD, 1829: Near Birch Wood, "occasionally met with rather abundantly" (Stephens, *Haust.*, 2: 147).

#### A. *Iota* Clerck: Red-line Quaker.

Native. Woods, marshes, etc.; on sallow. Recorded from all divisions except 10 (probably present), and 9. "Generally common" (V.C.H. (1908)).

Though of frequent occurrence, there are few records of the moth having been noted plentifully. Thus, Stainton (*Zoologist*, 1229) stated that at Lewisham in 1845, unpards of 60 occurred at sugar from October 12-31; and R. E. Scott wrote that in 1962 a total of 79 was counted in his m.v. trap at Dungeness, from October 8-20, with maximum (34) on October 20; but these are the only instances on record of plenteousness.

The larva has been recorded on several occasions on *Salix* (unspecified). Fenn (*Lep. Data MS.*) states that at Hither Green, they were common curled up in the leaves and terminal shoots; Chaney (1884-87) records the larva on sallow at Chattenden; and I have bred the moth from a larva taken on sallow at Dungeness on June 2, 1962 (C.-H.).

VARIATION.—Tutt (*Br. Noct.*, 2: 161) describes ab. *rufa*, and gives Chattenden as a locality. There is a specimen of *rufa* from Sandwich, 1904, in J. Platt Barrett coll. (C.-H.).

FIRST RECORD, 1829: Darenth Wood (Stephens, *Haust.*, 2: 148).

#### A. *macilenta* Hübn.: Yellow-line Quaker.

Native. Woods, copses, bushy places; *Populus nigra* (catkins). Fairly frequent and found in all divisions; few records for 4, 15.

R. G. Chatelain writes (*in litt.*) that he bred an example, September 28, 1964, from black poplar catkins gathered at High Elms (div. 5).

4. Ickham, occasionally at light (D. G. Marsh).

15. Dungeness, 1963, one on October 15 (R. E. Scott).

VARIATION.—Most Kentish specimens I have seen conform to typical *macilenta* Hübn.; ab. *obsoleta* Tutt, *straminea* Tutt, *obsoleta-straminea* Tutt, and *pallida* Tutt have all occurred to me in fair numbers when "ivying" at West Wickham, as well as three examples of ab. *nigrodentata* Fuchs (C.-H.).

FIRST RECORD, 1859: West Wickham (Barrett, *Ent. week. Int.*, 7: 75).

**A. circellaris** Hufn. (**ferruginea** Esp.): Brick.

Native. Woods, parks, etc.; on wych elm. Found in all divisions. "Generally common" (V.C.H. (1908)).

Kenardington, larvae on Wych elm, imagines reared (C.-H.); also on Wych elm at High Elms near Farnborough (D. R. M. Long).

VARIATION.—The majority of Kentish specimens are referable to ab. *ferruginea* Esp.; what appear to be typical *circellaris* Hufn., and ab. *fusconervosa* Petersen are of fairly frequent occurrence, but ab. *macilenta* Hübn., is much less so.

FIRST RECORD, 1861: Darenth Wood (Fenn, *Diary*, 30.ix.1861).

**A. lychnidis** Schiff. (**pistacina** F.): Beaded Chestnut.

Native. Cultivated and waste places; foodplant unknown. Found in all divisions. "Generally common" (V.C.H. (1908)).

It is remarkable that of this plentiful and often abundant moth, there is no published record of the discovery of any of the early stages in nature in Kent; indeed, the only mention of the feral larva that I can trace is in Gillett (*Diary*) where he merely states that he bred one on September 24, 1913, from a wild larva taken at Chevening.

VARIATION.—Of this extremely variable insect, Tutt (*Br. Noct.*, 2: 166) includes the following abs. for Kent: *pallida* Tutt, *serina* Esp., *obsoleta* Tutt, *lineola* Haw., and *lychnidis* Fab.; Cockayne (*Ent. Rec.*, 63: 232) describes ab. *nigribasalis*, holotype ♂, from E. Kent; and Morley (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1933-34: 50) records ab. *canaria* Esp., from Folkestone, and as previously unrecorded from Britain.

FIRST RECORD, "An insect of moderate rarity, occurring chiefly at Darenth and Birch Woods" (Stephens, *Haust.*, 2: 146).

**Anchoscelis helvola** L. (**rufina** L.): Flounced Rustic.

Resident, perhaps native. Woods, downs, etc.; on Salad Burnet. The moth appears to have been generally rather scarce during the early part of the present century, but became less so since 1930, and during the past fifteen years showed a very marked increase.

1. West Wickham, larva, June 1, 1861 (Fenn, *Diary*); (de Worms, *Lond. Nat.*, 1955: 52). Shooters Hill, 1862; Lee, 1862, 1865 (Fenn, *Lep. Data MS.*). Joydens Wood, few, September 21, 1875; Pauls Cray Common, September 25, 1875; Bexley Park Wood, one, October 11, 1887 (Fenn, *Diary*). Birch Wood (Carr, *Entomologist*, 31: 295). Farnborough; Eltham; Lee (*Wool. Surv.* (1909)). Sidcup, scarce (H. E. Page & G. H. Hickling MS.). Lee, September 21, 1956 (C. G. Bruce). Hayes (de Worms, *loc. cit.*). Abbey Wood, two, 1953 (A. J. Showler). Orpington, three, 1957 (R. G. Chatelain). Dartford, one, 1960 (B. K. West). Bromley, 1959 (1), 1960 (1), 1961 (none), 1962 (4), 1963 (5), 1964 (57), 1965 (2 only, m.v.l. failed in ix) (D. R. M. Long).

2. Sheerness (Walker, *Ent. mon. Mag.*, 8: 185).
3. Canterbury\* (Parry, *Ent. Rec.*, 2: 290); six at sugar, 1893 (S. Wacher MS.). Broad Oak, at ivy 1936; one since (C.-H.).
4. Ickham, occasionally taken at light, 1954-59 (D. G. Marsh).
5. Knockholt, two, October 2, 1875 (Fenn, *Diary*). Chevening, 1916 (Gillett, *Diary*). Westerham, various years, with several at light in 1963 (R. C. Edwards).
6. Greenhithe\* (Farn MS.). Clay Lane Wood, scarce (H. C. Huggins).

Stone, 1952 (G. Law). Eynsford, several larvae at night on Salad Burnet, May 24, 1960, from which two were reared (R. G. Chatelain). Romney Street, four at m.v.l., October 2, 1964 (T. Peet).

6a. Darent Wood, abundant September 30, 1861; September 5, 1874; fourteen, September 24, took 33 September 27, 1887 (Fenn, *Diary*); 1888 (Fenn., *Lep. Data MS.*); one, 1906, one, September 19, seven, September 26, 1908 (S. F. P. Blyth); fairly common at sugar, 1924-25 (F. T. Grant); one September 28, 1932 (A. R. Kidner); (E. J. Hare). Chattenden, four, October 11, 1890 (Fenn, *Diary*). Mark Oak Wood\* (Chaney (1884-87)).

7. Wigmore Wood; Fir Grove (Chaney (1884-87)). Hucking Hill, six, October 5, 1880 (Green, *Young Nat.*, 1 (52), 411). Detling, September 23, 1960 (R. G. Chatelain).

8. Folkestone\* (Ulliyett (1880)); very plentiful at sugar (1891) (Brown, *Ent. Rec.*, 2: 286). St. Radigunds, some taken by Hay, October 10, 1908 (P. A. Cardew, *Diary*). Reinden Wood, fairly plentiful (Morley (1931)). Stowting (C. A. W. Duffield). Dover (W. E. Busbridge). Waldershare (E. & Y. (1949)). Folkestone Warren, three at m.v.l., 1950 (W. L. Rudland). Hadding Wood, nine, September 23, 1938 (W. E. Busbridge, *Diary*). Lord Guildfords Wood near Dover, ten, September 29, 1949 (D. G. Marsh, *Diary*).

9. Minster, one, September 6, 1915 (H. G. Gomm).

10. Brasted Chart, September 18, October 18, 1912; October 2, 1914 (Gillett, *Diary*). Igtham, one, 1954 (B. K. West). Westerham (Coote and Jacobs *Proc. S. Lond. ent. nat. Hist. Soc.*, 1937-38. 37).

11. Wateringbury (V.C.H. (1908)); numerous in E. Goodwin coll. (C.-H.). Hoads Wood (Scott (1936)); common at sugar, 1959-60 (M. Singleton). Aylesford, one, 1951, common, 1953, 1955 (G. A. N. Davis). Sevenoaks Weald, September 23, 26-28, October 1-6, 10-13, 1959, at m.v.l., altogether about 20; fifteen, September 18-October 6, 1960 (E. A. Sadler).

12. Ham Street, two, October 10, 1934 (G. V. Bull); October 1, 1953 (W. L. Rudland); about 40 at sugar and light, 1954; few seen, 1955 (P. B. Wacher); abundant, 1956 (de Worms, *Entomologist*, 90: 182) (Marsh, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1956: 36); 1956-57 (R. F. Bretherton); common at sugar in Orlestone Woods, 1959-60 (M. Singleton). Ashford, 1954-55 (P. Cue). Willesborough, 1954 (1), 1956 (1), 1963 (3); Wye, 1953 (1), 1955 (1), 1956 (1) (W. L. Rudland). Hothfield, frequent annually (P. Cue, *in litt.*, 1962). Ashford, in garden, annually, not uncommon (P. Cue, *in litt.*, 1962).

13. Tunbridge Wells (Beeching, *Ent. Rec.*, 2: 229). Pembury, c. 1950 (V. M. Sage). Goudhurst, fairly common, 1956-61 (W. V. D. Bolt).

14. Tenterden, very common (Stainton, *Man.*). Hawkhurst (B. G. Chatfield). Iden Green, one, 1951 (H. Boxall).

15. Dungeness, 1963, by R. C. Dyson (A. J. Wightman, *in litt.*).

16. Hythe, one at ivy, October 10, 1929 (A. M. Morley). Sandgate, 1961 (7) (N. Reay-Jones).

**VARIATION.**—Lees (*Ent. Rec.*, 48: 17) records one ab. *ochrea* Tutt, Ham Street, September 27, 1934; and N. Reay-Jones states (*in litt.*) that one of those taken at Sandgate in 1961 conforms to ab. *punica* Bork.

**FIRST RECORD**, 1829: "Not uncommon, especially in the woods of Kent, within the metropolitan district" (Stephens, *Haust.*, 3: 68).

#### **A. litura** L.: Brown-spot Pinion.

Resident, perhaps native. Woods, copses, etc.; on ash, primula, chickweed.

Note: This is one of the few species that is plentiful in West Kent, but comparatively rare in the east. The records indicate that *litura* was less rare in the eastern half of the county prior to about 1910, but has declined since owing to contraction of range. Recently, however, and more particularly during the past decade, there have been signs of a revival east of the Medway.

1. Birch Wood, 1843 (Douglas, *Zoologist*, 484). Bexley, 1898, swarming (Carr, *Entomologist*, 31: 295); several, 1953 (C.-H.). Lee, 1898 (Green, *Trans. W. Kent nat. Hist. Soc.*, 1905-06: 16); 1900 (Carr, *Entomologist*, 34: 108). Chislehurst, common (S. F. P. Blyth). Sidcup, plentiful at sugar, September 11-19, 1911, one, October 22, 1921, a few 1923, 1935-36 (A. R. Kidner, *Diary*). Generally distributed.—Bexley and Joydens Woods; Farnborough; Catford; Plumstead; Eltham; Lee pit (*Wool. Surv.* (1909)). Lee, common (C. G. Bruce). West Wickham, 1911 (K. P. Keywood, in *de Worms, Lond. Nat.*, 1955: 53). Hayes and West Wickham, fairly numerous annually, at ivy, sugar and light (C.-H.). Dartford (V. C. H. (1908)); not common (B. K. West). Petts Wood, 1951, common (A. M. Swain). Orpington (L. W. Siggs). Abbey Wood, 1952 (A. J. Showler). Blackheath, not uncommon at m.v.l., 1959 (A. A. Allen). St. Mary Cray, "Commonest visitor (at m.v.l.) at that time of year since I started work here in 1953. Appears a week or so before *A. lychnidis* which is nearly as common" (R. G. Chatelain, *in litt.*, 18.xii.1957). Bromley, 1960 (35), 1961 (25), 1962 (64), 1963 (36), 1964 (68); larvae found on ash, primula and chickweed, imagines reared (D. R. M. Long).
2. Royal Oak, Sheppeney, two, September 22-26, 1868 (J. J. Walker MS.). Stone, fairly common, 1955 (G. Law).
3. Faversham\* (Morris, *Br. Moths*, 2: 164). Sturry Wood, one, September 28, 1915 (H. G. Gomm, *Diary*). Blean, nine, October 1, 1901, in J. P. Barrett coll. (C.-H.). Canterbury\*, 1891 (Parry, *Ent. Rec.*, 2: 290); five, September 1893 (S. Wacher MS.).
4. Deal\* (V.C.H. (1908)).
5. Chevening, several, September 19—October 18, 1912, September 24—October 16, 1913, 1914, 1916 (Gillett, *Diary*).
6. Greenhithe\* (Farn MS.). Gravesend, September 16, 1911; Chalk, October 2, 11, 1911 (F. T. Grant). Fawkham; Pinden; common (E. J. Hare, *personal communication*, 1956). Otford, 1955-56, quite common (W. B. L. Manley).
- 6a. Darenth Wood (Stephens, *Haust.*, 2: 146); 1925 (F. T. Grant). Mark Oak Wood\* (Chaney (1884-87)). Chattenden, one, 1903, in J. P. Barrett coll. (C.-H.).
7. Hucking Hill, one at sugar, October 5, 1880 (Green, *Young Nat.*, 1 (52), 411). Wigmore Wood; Fir Grove; common at sugar (Chaney (1884-87)). Detling, one, September 23, 1960 (R. G. Chatelain).
11. Wateringbury (V.C.H. (1908)). Shipborne, one, 1911 (Buxton, *Ent. Rec.*, 23: 314). Aylesford c. 1954 (G. A. N. Davis). Maidstone, several, 1954-55 (E. Philp). Sevenoaks Weald, a few, at m.v.l., September 17, 23-30, October 4, 5, 11, 1959 (10 altogether); September 11-October 23, 1960 (92) (E. A. Sadler).
12. Brook, October 1934, at ivy (A. J. L. Bowes). Willesborough, one, September 29, 1964 (W. L. Rudland).
13. Tunbridge Wells, 1891 (Beeching, *Ent. Rec.*, 2: 229); common (E. D. Morgan). Pembury, c. 1950 (V. M. Sage). Goudhurst, one, 1956, four.

September 22-30, 1960 (W. V. D. Bolt).

16. Folkestone\* (Ulyett (1880)). Folkestone Town, one in 1897 taken by J. W. Walton (A. M. Morley).

FIRST RECORD, 1829: "I have found the larva at Darenth-wood . . ." (Stephens, *Hast.*, 2: 146).

**Atethmia xerampelina** Esp.: Centre-barred Sallow.

Resident. Woods, copses, plantations; [on ash].

1. Lewisham, two, 1847 (Stainton, *Zoologist*, 1915). Charlton (Jones, *Ent. mon. Mag.*, 2: 139). Bromley (Adkin, *Entomologist*, 37: 286). Farnborough; Eltham; Chiselhurst (*Wool. Surv.* (1909)). Petts Wood, several, 1947, several, 1950 (E. Evans). West Wickham, 1950-53 (E. Trundell). Dartford, ♀, at light, September 15, 1951 (B. K. West). Abbey Wood, 1953 (A. J. Showler). Orpington, one, 1957 (R. G. Chatelain).

3. Broad Oak, one, September 9, 1945, at electric light (C.-H.) Canterbury, frequent at lamps in the city (J. A. Parry). Blean Woods and Herne Bay; occasionally at light (D. G. Marsh).

4. Ickham (Marsh, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1956: 36); not scarce, 1949-59, two or three per annum, more some years (D. G. Marsh).

5. Westerham (R. C. Edwards).

6. Longfield (Jennings, *Entomologist*, 5: 445). Fawkham; Bean (E. J. Hare). Otford, 1955 (W. B. L. Manley).

6a. Darenth (Adkin, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1934-35: 56).

7. Belmont (H. C. Huggins). Westwell, fairly common, September 1946 (E. Scott). Boxley (A. H. Harbottle).

8. Folkestone\* (Ulyett (1880)). Dover, September 16, 1896; one, September 18, 1902, on a gas lamp (Stockwell, *Diary*). Shepherdswell (E. & Y. (1949)). Brook (C. A. W. Duffield). Wye, in ash plantation near the Crown, numerous September 2-5, 1934, September 1, 5, 1935, September 2, 1937 (A. J. L. Bowes); about 12, September 1, 1934; nearly 20, September 8, 1937 (de Worms, *Entomologist*, 68: 104, 71: 205); two at light, September 24, 1963 (M. Singleton).

9. Sevenscore, one September 10, 1926 (J. W. C. Hunt). Margate, one, August 26, 1951 (W. D. Bowden).

11. Edenbridge, at light, 1932 (F. D. Greenwood). Hoads Wood, two, August 29, 1953 (P. Cue). Aylesford (G. A. N. Davis). Sevenoaks Weald, August 30, 31, September 5, 7, 1959 (E. A. Sadler). Near Charing, one, September 13, 1963 (M. Singleton).

12. Ham Street, several at light, 1949, 1951 (C.-H.). Willesborough, one, 1953, four, 1956; one, 1957, one, 1964; Wye, August 28-September 18, 1953 (38), September 18, 1954 (1), August 25-September 22, 1955 (13), September 11-26, 1956 (8) (W. L. Rudland). The Alders, near Potters Corner, two, September 15, 1962, by M. Enfield (M. Singleton).

13. Goudhurst, common at light (W. V. D. Bolt).

14. Sandhurst, at sugar (G. V. Bull). Hawkhurst, 1953 (B. G. Chatfield). Tenterden, 1960 (C. G. Orpin).

15. Dungeness, one, September 14, 1938 (de Worms, *Entomologist*, 71: 262). Fairfield, one, September 19, 1957 (W. D. Bowden).

16. West Hythe, at sugar, September 2, 1947 (H. King). Folkestone (Morley, *Ent. Rec.*, 64: 170); several, 1953 (A. M. Morley). Sandgate, 1960 (1) (N. Reay-Jones).

VARIATION.—Ab. *unicolor* Staudinger, Hoads Wood, several (de Worms,

*Entomologist*, **88**: 94, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1956: 36); Folkestone, one taken by W. A. Cope (C.-H.); one, "approaching ab. *unicolor* Staud." (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1962: 42). Ab. *lutea* Brombacher, one, Darenth (R. C. K.).

FIRST RECORD, 1847: Lewisham (Stainton, *Zoologist*, 1915).

**Tiliacea citrago** L.: Orange Sallow.

Resident. Waysides, etc.; on lime, "weeping elm".

Note: According to Hanbury and Marshall (*Flora of Kent*, 74), limes occur in many parts of the county, but have no real claim to be considered native in Kent.

1. Birch Wood, September 1843 (Douglas, *Zoologist*, 484). Lewisham, 1846 (Stainton, *Zoologist*, 1790); 1861 (Fenn, *Ent. week. Int.*, **10**: 196); 1885 (Marriott, *Young Nat.*, **7**: 79). West Wickham, 1866 (Miller teste Knaggs, *Ent. Ann.*, 1867:153); c. 1930 (S. Wakely); (Birchenough, in de Worms, *Lond. Nat.*, 1955:53). Near Wilmington (Newman, *Entomologist*, **35**:25, *Ent. Rec.*, **13**: 376). Sydenham (A. M. Swain, in Buckell and Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1901:65). Farnborough; Chislehurst; Blackheath; Pauls Cray; Catford; Eltham; Lee Pit (*Wool. Surv.* (1909)). Chislehurst, not common (S. F. P. Blyth). Bexley (L. T. Ford). Sidcup, at light, 1911, 1922; August 22, 1923, September 13, 1936, September 14, 1937; larva, May 22, 1939 (A. R. Kidner, *Diary*). Dartford, ♂, at light, September 21, 1946 (B. K. West). Bromley, several, September 9, 1949 (W. A. Cope); two, on sugared lime leaves, September 9, 1953 (C.-H.). Abbey Wood, 1957 (A. J. Showler). Orpington, September 19, 1962 (R. G. Chatelain). Lee (C. G. Bruce). Bromley, 1960 (2), 1963 (1), 1964 (2), 1965 (1), (D. R. M. Long).
5. Chevening, larvae on lime, spring 1912; larva beaten from "weeping elm", imago emerged September 5, 1913 (Gillett, *Diary*). Westerham (R. C. Edwards). High Elms, August 7 (2), September 19, 1962, September 14, 1963 (R. G. Chatelain and B. F. Skinner); one at sugar, September 5, 1964 (R. G. Chatelain).
6. Longfield (Jennings, *Entomologist*, **4** (54), ii). Gravesend (H. C. Huggins); one, September 20, 1923 (F. T. Grant). Fawkham; Kingsdown (E. J. Hare).
7. Boxley, 1953 (A. H. Harbottle).
8. Elvington, September 13, 1935 (J. H. B. Lowe). Stowting; Brook\* (C. A. W. Duffield). Barfreston, six at sugar, September 12, 1936; twenty-six at sugar and honeydew, September 11, 1937; four, September 17, two, September 22, 1938 (W. E. Busbridge, *Diary*). Near Denton (E. & Y. (1949)). Dover, one, 1944 (B. O. C. Gardiner). Goodnestone, September 1945 (R. W. Parfitt).
10. Brasted, larvae (R. M. Prideaux). Sevenoaks, 1945 (F. D. Greenwood).
11. Yalding (V.C.H. (1908)). Shipborne, numerous at sugar (Buxton, *Ent. Rec.*, **22**:264). Edenbridge, 1903 (F. D. Greenwood).
12. Hothfield Place; Ashford (Scott (1936)). Ashford Town, larvae, c. 1953 (P. Cue). Ham Street, one, September 21, 1957 (R. F. Bretherton). Willesborough, September 15, 1963 (W. L. Rudland).
13. Tunbridge Wells (E. D. Morgan). Pembury, c. 1950 (V. M. Sage).
14. Sandhurst; Hawkhurst (G. V. Bull).

VARIATION.—One of my Bromley specimens is referable to ab. *aurantiago* Tutt (C.-H.).

FIRST RECORD, 1844: Birch Wood (Douglas, *Zoologist*, 484).

**T. aurago** Schiff.: Barred Sallow.

Native. Woods, copses; on beech. Mainly on the chalk; perhaps casual in 15.

1. Birch Wood (Douglas, *Zoologist*, 484). Hither Green, singletons, October 2, 4, 9, 1862 (Fenn, *Diary*). Lee (West, *Ent. Rec.*, 18:229). Bexley (Carr, *Entomologist*, 31:295); odd specimens at light (B. K. West); one at light, 1953 (C.-H.). Petts Wood, one, 1947, two, 1949 (E. Evans). Orpington, 1948, 1953 (L. W. Siggs); four, 1957 (R. G. Chatelain). West Wickham, 1951 (E. Trundell); one, 1956 (C.-H.). Farningham, September 20, 1963 (6) (R. G. Chatelain). Bromley, 1961 (2), 1962 (8), 1963 (9), 1964 (12); earliest date September 22, 1963, latest date October 21, 1962, maximum (3) October 18, 1962 (D. R. M. Long).

3. Broad Oak, one at ivy, September 21, 1951 (C.-H.). Clowes Wood, at ivy (P. F. Harris). Herne Bay, occasionally at light (D. G. Marsh); one at light at Eddington, September 27, 1948 (D. M. Marsh, *Diary*).

4. Ickham, fairly numerous, 1954-59 (D. G. Marsh).

5. Farnborough\* (Alderson, *Ent. Rec.*, 9:333). Holwood\* (*Wool. Surv.* (1909)). Chevening, several, 1913-14, 1916, 1918 (Gillett, *Diary*). Westerham (R. C. Edwards). High Elms, several at light, two at sugar, September 26, 1963 (R. G. Chatelain).

6. Greenhithe\* (Farn MS.). Shoreham, not common at sugar (S. F. P. Blyth). Gravesend (H. C. Huggins). Chalk, one at ivy, 1923; Nurstead, one at sugar, 1922 (F. T. Grant). Fawkham; Horton Kirby (E. J. Hare). Otford (W. A. Cope); 1955 (W. B. L. Manley). Romney Street, one at m.v.l., October 2, 1964 (T. Peet).

6a. Darenth Wood (see *First Record*); one, 1925 (F. T. Grant).

7. Westwell (Scott (1936)). Eastwell (Scott (1936)); 1953-54 (P. Cue).

8. Wye to Brook, September 19, October 1, 1934, September 21, 1935 (A. J. L. Bowes). Elvington, September 13, 1935 (J. H. B. Lowe). Deal; West Studdal (E. & Y. (1949)). Folkestone Warren, one, October 8, 1956 (W. L. Rudland). Hadding Wood, one, September 23, 1938; Barfreston, five, September 11, 1937, four, September 22, 1938 (W. E. Busbridge, *Diary*). Brook, September 21, 1936 (2) (A. H. Lanfear). Wye, one, at light, October 8, 1963 (M. Singleton). Near Barham Cross, a larva on a twig of beech (A. M. Morley).

9. Garlinge, October 10, 1929, at ivy (H. G. Gomm). St. Peters, one at m.v.l., September 25, 1959 (W. D. Bowden).

10. Sevenoaks\* (V.C.H. (1908)). Brasted (R. M. Prideaux).

11. Shipborne (Buxton, *Ent. Rec.*, 23:314); 1913, in P. A. & D. J. A. Buxton coll. (C.-H.). Edenbridge, 1932 (F. D. Greenwood). Benenden, at sugar (G. V. Bull). Aylesford (G. A. N. Davis). Sevenoaks Weald, September 16, 1959, September 25-October 2, 6, 10-13, 16, 1959; thirteen, September 21-October 18, 1960 (E. A. Sadler).

12. Ashford district\* (Chittenden, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1899:107); (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1905-06:100, 1933-34:47). Ham Street (Lees, *Ent. Rec.*, 48:17); 1958, 1959 (de Worms, *Entomologist*, 92:74, 93:199); one at sugar in Orlestone Woods, 1960 (D. Youngs). Willesborough, one, 1953, one, 1955; Wye, five, 1953, one, 1954, four, 1955, three,

1956 (W. L. Rudland). Ashford, 1954 (P. Cue).

13. Tunbridge Wells, scarce (Knipe (1916)). Pembury (V. M. Sage). Goudhurst, common (W. V. D. Bolt).

14. Sandhurst, at sugar (G. V. Bull).

15. Dungeness, one, at sugar, October 12, 1959 (B. F. Skinner); one at light, October 13, 1962 (Dyson, *Entomologist*, **96**:116).

16. Folkestone,\* two, taken by J. W. Walton, c. 1898 (A. M. Morley).

VARIATION.—The majority of Kentish specimens appear to conform to nymotypical *aurago* Schiff., ab. *virgata* Tutt is fairly frequent, and ab. *rutilago* Fab. occurred to me once at Broad Oak in 1936 (C.-H.). Tutt (*Br. Noct.*, **3**:13) describes ab. *lutea*, holotype, near Ashford, taken by Chittenden.

FIRST RECORD, 1829: "Occasionally at Darent Wood, . . ." (Stephens, *Haust.*, **3**:65).

#### **Citria lutea** Stroem (**flavago** F.): Pink-barred Sallow.

Native. Woods, boggy places, etc.; on sallow (catkins). Found in all divisions; few records for 2, 4, 9. "Generally distributed and not scarce" (V.C.H. (1908)).

The moth is seldom plentiful, but on rare occasions has been noted in great abundance. Thus, Brown (*Ent. Rec.*, **2**:286) observed it at Folkestone in September 1891, "swarming one evening at the scabious flowers"; and Alderson (*Ent. Rec.*, **7**:183) recorded that at Farnborough in 1895, it was exceedingly abundant on certain nights on grass heads. A. J. L. Bowes (*Diary*) states that at Ham Street, A. G. Peyton has seen them swarming on ripe blackberries.

An imago emerged July 30, 1926, from a larva from sallow catkins taken at Darent Wood (F. T. Grant). Farningham Wood, two young larvae, May 1939 (A. R. Kidner). Chevening, imago emerged, August 1, 1913, from a wild larva (Gillett, *Diary*).

2. Sheerness (Walker, *Ent. mon. Mag.*, **8**:185).

4. Ickham, one, c. 1956 (D. G. Marsh).

9. Ramsgate neighbourhood\* (Willson, *Entomologist*, **23**:140). Minster, one, September 13, 1915 (H. G. Gomm). St. Peters, two, September 20-25, 1959 (W. D. Bowden).

FIRST RECORD, 1773: Near Shooter's Hill (Wilkes, *120 Copper Plates of English Moths and Butterflies*, 5).

#### **Cirrhia icteritia** Hufn. (**fulvago** L.): Sallow Moth.

Native. Woods, copses, carr, etc.; on sallow (catkins). Found in all divisions. "Generally common" (V.C.H. (1908)).

Moderately numerous as a rule and certainly more so than *Citria lutea*, though seldom very plentiful. Alderson (*Ent. Rec.*, **7**: 183) however, records that at Farnborough in 1895, the imago, together with that of *C. lutea*, were on some favourable nights, "exceedingly abundant on the grass-heads in a restricted area about 15 yards in extent, and with very few sallows near".

The larvae are recorded as having been found on a number of occasions in sallow catkins; notably at Crofton by D. R. M. Long, and in abundance at Dartford by B. K. West.

VARIATION.—Ab. *flavescens* Esp. is recorded from Darent and Birch Woods (Stephens, *Haust.*, **3**: 65); Birch Wood, in 1843 (Stevens, *Zoologist*, 334); Sheppen, 1868 (J. J. Walker MS.); Farnborough (Tutt, *Br. Noct.*, **3**:

11); Bexley, 1900 (Carr, *Entomologist*, **34**: 108); Edenbridge, 1931 (F. D. Greenwood); Hoads Wood, 1949 (P. Cue); and as not uncommonly at Dartford (B. K. West). Tutt (*loc. cit.*) records abs. *cervago* Hübn., *imperfecta* Tutt, and *aurantia* Tutt, from Kent.

FIRST RECORD, 1829: Darenth and Birch Woods (Stephens, *Haust.*, **3**: 65).

**C. gilvago** Schiff.: Dusky-lemon Sallow.

Resident. Woods, plantations; on Wych Elm. "Rare" (V.C.H. (1908)).

Evidently much more restricted formerly; this species is nowadays rather generally distributed and in some years locally plentiful.

1. Barnett Wood (Lawrence, *Entomologist*, **34**: 22). Lee (Bower, *Ent. Rec.*, **12**: 340); September 14, 1956, September 16, 1957 (C. G. Bruce). Wilmington (Newman, *Entomologist*, **35**: 25; idem, *Ent. Rec.*, **13**: 376) (Bexley (L. W. Newman, in *Wool. Surv.* (1909)), probably refers). Paul's Cray (G. B. Browne, in *Wool. Surv.* (1909)). Crofton (W. Barnes, in *Wool. Surv.* (1909)). Sidcup, three, October 1909, one at light, September 24, 1937 (A. R. Kidner, *Diary*). Bromley, 1909 (W. A. Cope). West Wickham (Kershaw, *Entomologist*, **51**: 66); one, 1947 (R. F. Birchenough, in *de Worms, Lond. Nat.*, **1955**: 55). Bexley, ♀, at light, September 21, 1946 (B. K. West). Keston, one, 1949 (C.-H.). Petts Wood, 1949 (E. Evans); 1949 (A. M. Swain).
2. Sheppey, 1936 (E. H. Wild).
3. Broad Oak, one at ivy, October 4, 1938 (C.-H.). Canterbury City, a very few at light (J. A. Parry). Whitstable (P. F. Harris). Herne Bay, scarce (D. G. Marsh); one, October 5, 1948 (D. G. Marsh, *Diary*).
4. Deal\* (see *First Record*). Reculver Towers, one at ivy, October 5, 1938 (C.-H.). Sandwich, September 13, 1938 (A. J. L. Bowes); one, September 18, 1954 (W. D. Bowden). Ickham, occasionally, 1954-59 (D. G. Marsh).
5. Farnborough\* (Alderson, *Ent. Rec.*, **9**: 333). Chevening, September 10, 18, 1914; larva on Wych Elm, 1917 (Gillett, *Diary*). Westerham (R. C. Edwards). High Elms, one, September 14, fourteen at sugar, October 17, 1963; larvae on Wych Elm (R. G. Chatelain).
6. Greenhithe\* (Farn MS.). Gravesend (H. C. Huggins); at street lamps, September 27, 1910, September 22, 26, 1914; at sugar, September 13, 1912 (F. T. Grant). Pinden; Fawkham (E. J. Hare).
7. Detling, September 23, 1960 (R. G. Chatelain).
8. Haddling Wood, one, September 23, 1938 (W. E. Busbridge, *Diary*) (Whitfield (E. & Y. (1949) may refer). Folkestone, flying in sun, October 1, 1945 (Morley, *Entomologist*, **79**: 288); two, September 25, one, October 8, 1956, in the Warren (W. L. Rudland). Deal (E. & Y. (1949)). Elmstead (Scott (1950)). Wye, October 2 (1), 8 (2), 1963, at light (M. Singleton).
9. Margate, one, 1905, one, 1906, in J. Platt Barrett coll. (C.-H.); one, October 22, 1929 (H. G. Gomm); (P. F. Harris). Garlinge, October 8, 1921 (H. G. Gomm). St. Peters, one, September 23, 1951, September 18, 20, 25, 1957 (W. D. Bowden, *Diary*).
11. Benenden (G. V. Bull). Aylesford (G. A. N. Davis). Sevenoaks Weald, one, September 19, 1959 (E. A. Sadler).
12. Hothfield; Brook (Scott (1936)). Willesborough, 1953 (1), 1954 (1), 1955 (1), September 10-October 14, 1956 (16), 1963 (1), 1964 (1); Wye, 1954 (1), 1955 (1) (W. L. Rudland). Ashford, 1954 (2), 1957 (1), one, on a shop window, October 1, 1963 (P. Cue). West Ashford, one at light, 1961, one in

m.v. trap, October 6, 1962 (M. Enfield).

13. Tunbridge Wells (E. D. Morgan).
14. Sandhurst, at sugar (G. V. Bull). Tenterden, 1960 (C. G. Orpin).
15. Dungeness, September 16, 1934 (A. J. L. Bowes); several, September 12, 14, 1938 (de Worms, *Entomologist*, **71**: 262, **72**: 263). Lydd, several, 1956 (de Worms, *Entomologist*, **90**: 182). Military Canal.—Appledore (D. G. Marsh); Kenardington, thirty-five larvae beaten from Wych Elm, May 24, 1953 (C.-H.); Ham Street, many larvae on Wych elm, May 17, 1959, May 27, 1960 (R. F. Bretherton).
16. Folkestone\*, two (Haggar, *Entomologist*, **8**: 300). Hythe\* [Military Canal] (Dannatt, *Entomologist*, **28**: 307, idem, *Ent. Rec.*, **7**: 86); (Morley (1931)); September 17, 19, 1934 (A. J. L. Bowes); West Hythe, September 18, 1933 (J. H. B. Lowe); larvae (P. Cue).

VARIATION.—Of thirty-two bred from Kenardington, half appear referable to ab. *suffusa* Tutt, ten to nymotypical *gilvago* Schiff., one to ab. *cinnamomeago* Splr., and the remainder to various forms mostly transitional to *suffusa*. W. A. Cope's Bromley specimen, which I possess, is a monster having an alar expanse of 40 mm., and heavily suffused with greyish especially in the median area (C.-H.).

FIRST RECORD, 1858: Deal, two taken by H. J. Harding in September 1858 (Newman, *Zoologist*, 6284). Newman (*loc. cit.*) recorded these as "*Xanthia ocellaris*"; but the weight of opinion including that of Doubleday, Bond and Stevens, showed them to be referable to *gilvago* (cf. Anderson, *Zoologist*, 6504).

#### [**C. palleago** Hübn.:<sup>1</sup> Dusky-orange Sallow.

Questionably Kentish.

8. Canterbury district\*.—"I have recently seen one that was taken at light in the Canterbury district, Kent, on October 3, 1907" (1907, *South. Moths Br. Isles*, **1**: 21)<sup>2</sup>. East Kent\*.—At meeting on 1.ii.1916, H. Worsley Wood "mentioned that Mr. Bernard Cooper had in his collection a pair of the more usual smaller redder form of this insect taken (or said to have been taken) in East Kent". (Wood, *Trans. Lond. Nat. Hist. Soc.*, 1916: 9); "Cooper tells me that they were purchased from Mr. J. H. Shepherd, late of Shipley, Yorks" (idem, *Entomologist*, **49**: 88).]

<sup>1</sup>Treated here as distinct from *C. gilvago* in accordance with Heslop's classification; most authors, however, recognise *palleago* as of sub-specific status.

<sup>2</sup>South fails to cite captor's name, an important omission. Was it Parry? I remember a *palleago* in old George Parry's coll. alleged to have been taken there (C.-H.).

#### **C. ocellaris** Borkh.: Pale-lemon Sallow.

Suspected resident. River valleys; foodplant unknown.

Note: Appears to be restricted to W. Kent (v.-c. 16); having been noted only from the regions of the Upper Medway, Cray, Ravensbourne, and Darenth valleys. Search for the larva from catkins of *Populus nigra* in the districts from which it has been recorded is indicated.

1. Sidcup, one, October 6, one, October 15, 1922 (Kidner, *Entomologist*, **56**: 114). Blackheath, ♂, taken at m.v.l., September 23, 1961 (Allen, *Ent. Rec.* **73**: 258).
10. Wilmington district.\*—L. W. Newman records that he took a ♀ and 2 ♂♂ at sugar in 1899, "not far from Wilmington"; and in 1900, with a

friend, five more (Newman, *Ent. Rec.*, 13: 376) (Bexley (V.C.H. (1908)), probably refers).

11. Tonbridge, ♀, taken at sugar, September 30, 1919 (Rattray, *Entomologist*, 53: 20).

[Kent, 1895 (Tutt, *Ent. Rec.*, 7: 175); lacks confirmation.] [(Two taken by Harding at Deal in 1858 (E. Newman, *Zoologist*, 6284-5), and believed to be *ocellaris*, were later confirmed as *C. gilvago* (q.v.))]

FIRST (CONFIRMED) RECORD, 1901: Wilmington district (L. W. Newman, *Ent. Rec.*, 13: 376).

### **Conistra erythrocephala Schiff.: Red-headed Chestnut.**

Suspected immigrant and temporary resident. Woods; foodplant unknown. No recorded occurrence since 1934.

[3. Near Canterbury (Pine and Hospital Woods).—Six ab. *glabra* Hb., taken by G. Parry, October 1866 (Newman, *Entomologist*, 3:228; Parry, *Entomologist*, 5:446; Parry, *Entomologist*, 80:21; Knaggs, *Ent. Ann.*, 1867: 152); one, "taken by Mr. Edney, Hospital Wood Oct. 1, 1871" (R.C.K.); two, October 1871 (Parry, *Entomologist*, 5:446) (Stevens, *Proc. ent. Soc. Lond.*, 1873:xxvii); one, "Hospital Wood, Kent 9/75" (R.C.K.); one ab. *glabra*, taken October 1891 (Parry, *Ent. Rec.*, 2:290); one, 1893, in Captain Vipan coll. sale (Cockayne, *Entomologist*, 76:175); ♀, taken by W. J. Cox, from which two ab. *intricata* Gn. were bred (Jones, *Proc. ent. Soc. Lond.* 1901: xxii; R.C.K.); one, "Kent, 1869, Urwick coll." (ex Canterbury?—C.-H.) (R.C.K.); 2 ♂♂, 2 ♀♀, in Dale coll. (Walker, *Ent. mon. Mag.*, 45:179); one ab. *glabra*, "ex coll. J. B. Hodgk [inson] /97, J. Parry, Canterbury"; one "Pine Wood, Canterbury 6.xi.1903" (R.C.K.); ♂, "Dr. Harper, Canterbury" (C.-H. coll.)]<sup>1</sup>

6a. Darenth Wood, one at sugar, end of October 1871, taken by J. Moore (Moore, *Entomologist*, 5:461); one, October 28, 1872, taken by G. W. Bird (Bird, *Entomologist*, 6:264), and exhibited by him (Bird, *Proc. ent. Soc. Lond.*, 1873:ii); one, "From the collection of E. R. Sheppard (sold 11th Jan. '84) taken at Darenth by Packman" (R.C.K.).

8. Wingham district [Chillenden], one, March 1857; October 17, 1865, at sugar (Hammond, *Entomologist*, 3:127); several taken by Hammond in his garden on ivy in October and November (Stevens, *Entomologist*, 26: 298). Near Barham, several taken at ivy in garden (Webb (1891); E. & Y. (1949)). Between Canterbury and Dover, "I have a series taken inland between Canterbury and Dover" (Stevens, *Entomologist*, 26:298). Folkestone\* (Ulliyett (1880)). "Dover", one so-labelled in Stockwell coll. (C.-H.). Wye\* (V.C.H. (1908)). Ashford\*, one, "Ashford, Kent, Watkins Nov. '99" (R.C.K.).

<sup>1</sup>Despite the suspicion that attaches to Canterbury *erythrocephala*, there are certain features strongly suggestive of its occurrence there as a resident for perhaps a considerable period. For instance, J. W. Tutt, in a curiously interesting account, stated that Parry had for many years offered to take him personally to get it, and that he had never had the leisure to go; but added he had no doubt Parry would extend the same courtesy to any other lepidopterist equally interested (cf. *Ent. Rec.*, 4: 300). That Parry did extend this courtesy to at least one other collector is shown in a letter from H. C. Huggins, who writes: "B. A. Bower told me that Capt. Vipan was invited by G. Parry to accompany him for the purpose of taking *erythrocephala*, which they took."

15. Dungeness, one at sugar, September 29, 1934, taken by F. H. Lees (Lees, *Ent. Rec.*, **48**:18).

VARIATION.—Evidently a fair percentage of those taken are referable to *glabra* Hübn., of which ab. I have two very ancient specimens, each labelled. "Wingham, Kent" (C.-H.).

FIRST (PUBLISHED) RECORD, 1866: (Hammond, *Entomologist*, **3**:127).

**C. vaccinii** L.: Chestnut.

Native. Woods, copses, parkland; on birch, oak. In all divisions. "Generally common" (V.C.H. (1908)).

The first appearance of this moth is mostly noted from the beginning of October, when it is often plentiful at sugar and ivy; it may be seen throughout the winter on favourable nights, especially in woods, and after hibernation continues on the wing well into the spring, when it occurs frequently but in small numbers at sallow and light. I have no earlier record than September 15, on which date Gillett (*Diary*) records taking it at Chevening in 1917. In 1965, at Bromley, it persisted until May 15 (D. R. M. Long); and in 1956 at Willesborough, W. L. Rudland noted one at m.v.l. on June 29, an extraordinarily late date.

D. R. M. Long has taken the larva at Ham Street on birch and oak, and reared them.

VARIATION.—Most Kentish examples appear to conform to ab. *rufa* Tutt and *unicolor* Tutt; what I judge to be ab. *variegata* Tutt, *glabroides* Fuchs, *mixta* Stgr., and *bipuncta* Lempke have occurred to me in Kent, as well as the nymotype, but the latter is not numerous in my experience (C.-H.).

FIRST RECORD, 1829: "At Darenth . . . I have frequently taken it in the larva state" (Stephens, *Haust.*, **2**: 161).

**C. ligula** Esp. (**spadicea** Staint.): Dark Chestnut

Native. Woods, hedgerows, etc.; on hawthorn. Recorded from all divisions, except 10 (probably occurs). "Generally common" (V.C.H. (1908)).

The records show that *ligula* is much less numerous than its congener *vaccinii*, except perhaps in 4, 9, 15, and decidedly less partial to woods. Furthermore, unlike *vaccinii*, *ligula* is seldom observed in the spring or early part of the year, and the only instances on record are as follows: Lewisham, March 1861 (Cortisscs, *Ent. week. Int.*, **10**: 11); Paul's Cray Common, March 30, April 23, 1892 (Fenn, *Diary*); West Wickham, common, March 23, 1861 (Fenn, *Ent. week. Int.*, **10**: 3); Chevening, March 24, 1912 (Gillett, *Diary*); Cliftonville, one, February 23, 1951 (W. D. Bowden); Bromley, one, March 6, 1963 (D. R. M. Long).

D. R. M. Long has taken the larva at Bromley on hawthorn, and reared it. A. R. Kidner (*Diary*) records taking a larva at Farningham, June 4, 1927, but gives no further particulars.

VARIATION.—Most of my Kentish *ligula* appear referable to ab. *rufescens* Lempke. I have examples from Broad Oak, of what I judge to be the nymotype; and from West Wickham, ab. *ochrea* Tutt, *nigrescens* Lempke, *spadicea* Haw., and *rufofasciata* Lempke (C.-H.).

FIRST RECORD, 1829: Darenth Wood, and throughout the metropolitan district (Stephens, *Haust.*, **2**: 162).

## HYLOPHILIDAE

## WESTERMANNIINAE

**Bena prasinana** L. (*fagana* F.) ssp. **britannica** Warren: Green Silver-lines.

Native. Woods, copses, parks, etc.; on oak, beech, aspen, birch, hazel, Spanish chestnut. Frequent in 1, 6a (all sections), 10-12.

At Bromley, D. R. M. Long's m.v. trap counts read: 1960 (15), 1961 (7), 1962 (66), 1963 (50), 1964 (54), 1965 (50); with maximum daily total (9), July 3, 1962; and earliest date May 12, 1963, latest date August 2, 1962.

The larva is especially numerous some years; for instance, A. J. L. Bowes (*Diary*) and de Worms (*Entomologist*, **68**: 103) recorded it as particularly abundant at Ham Street in August and September 1934. With regard to natural pabulum, the following particulars are given in addition to those included below: Brasted (div. 10), two larvae beaten from aspen and birch, September 1912, imagines reared (Gillett, *Diary*). Swanscombe Wood (div. 6a), larvae on hazel, September 15, 1914 (F. T. Grant); Petts Wood, larva on hazel, 1951 (A. M. Swain); Spring Park, West Wickham, on Spanish chestnut (R. F. Birchenough).

3. Blean Woods (H. C. Huggins); larvae common (A. J. L. Bowes). Kemberland, an imago beaten from Spanish chestnut, 1936 (C.-H.). Tankerton (J. L. Atkinson). Pine Wood (J. A. Parry).

5. Halstead (R. E. E. Frampton). Lullingston, larva on beech; Shoreham, larva on birch and beech (D. R. M. Long).

6. Clay Lane Wood (H. C. Huggins). Culverstone, larvae, September 18-19, 1924; Birling Downs, two larvae on oak, September 5, 1925 (F. T. Grant). Shoreham, few larvae, September 17, 1932, September 28, 1934 (Kidner, *Diary*); pupa, 1945 (F. D. Greenwood). Eynsford (Blair, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1933-34: 33). Fairseat, June 3, 11, 19, 1960 (J. Ellerton).

7. Westwell, common, larvae on beech (Scott (1936)); a larva, 1959 (M. Singleton); larvae on beech outcrop shoots, c. 1959 (P. Cue). Sharsted, a larva, October 10, 1937, reared (C.-H.).

8. Folkestone (Ullyett (1880)). Covert Wood, June 22, 1935 (J. H. B. Lowe) (Barham (E. & Y. (1949)), may refer). Barfreston; Kearsney; Lydden; Poulton (E. & Y. (1949)). Bridge, c. 1946 (R. Gorier).

9. Haine near Margate, six cocoons on leaves of hedge oak, October 31, 1914, imagines reared (H. G. Gomm, *Diary*). St. Peters, one, July 2, 1956 (W. D. Bowden).

13. Tunbridge Wells (E. D. Morgan); a larva, imago reared 1954; an imago, 1959 (C. A. Stace).

14. Sandhurst, at light (G. V. Bull). Hawkhurst (B. G. Chatfield).

15. Dungeness, one, June 19, 1936, taken by B. Embry (A. M. Morley); one, June 6, 1950 (E. C. Pelham-Clinton); June 29, 1964 (R. E. Scott).

16. Near Hythe (Morley (1931)). Folkestone, July 1-3, 1956, a small invasion, nine, at m.v.l., mostly ♀♀ (A. M. Morley).

VARIATION.—Warren (in Seitz, *Macro.-Lep. Pal. Noct.*, 297, fig. 53k) names the "British form" ssp. *britannica*, of which he says "all the 3 lines are silvery white; the costal and inner margins in ♂ reddish only at apex and tornus respectively".

Richardson (*Ent. Rec.*, **64**: 271) describes ab. *bilinea*, allotype ♀, Ham Street, September 8, 1949; but I strongly suspect this is the normal form of the second brood imago, though its occurrence must be very rare in Kent; in S. Europe, however, where the second generation is much more

frequent, such specimens are referable to f.t. *fiorii* Costn. (C.-H.).

Cockayne (*Ent. Rec.*, **63**: 161-162) describes ab. *leucozona*, paratype ♀, Folkestone, 1898, S. G. Hills; ab. *anargyria*, ♀, N. Kent, 1915, L. W. Newman; of which both of course are in R.C.K. Also in R.C.K., is ab. *millierei* Capronier, one, Bexley, 1901, one, N. Kent, 1920.

FIRST RECORD, 1835: "Kent" (*Curtis, Br. Ent.*, 575).

**Pseudoips bicolorana** Fuessl. (*quercana* Schiff.): Scarce Silver-lines.

Native. Woods, copses, parks, etc.; on oak.

1. Birch Wood (see First Record). Lewisham (Stainton, *Zoologist*, 1915). West Wickham (Tugwell, *Ent. week. Int.*, **3**: 11); six at sugar, c. 1929 (S. Wakely); 1951 (E. Trundell.) Chislehurst (Cockerell, *Entomologist*, **16**: 233). Orpington district; Holwood (*Wool. Surv.* (1909)). Petts Wood (*Wool. Surv.* (1909)); three, 1947-50 (E. Evans); 1951 (A. M. Swain); larvae common (R. G. Chatelain). Sidcup, larvae, October 5, 1927, May 25, September 15, October 4, 1928; Farningham Wood, larvae, May 20, 1928; September 25, 1930; September 19, 1931; St. Paul's Cray Common, larvae, May 22, 1920, September 20, 1928; Bexley Park Woods, larva, May 16, 1919; Joydens Wood, larva, May 17, 1919 (A. R. Kidner, *Diary*). Shooters Hill (Henshall, *Entomologist*, **51**: 186). Abbey Wood, 1952 (A. J. Showler). Greenwich Park, 1948 (Owen, *Ent. Rec.*, **61**: 55). Bexley (Carr, *Entomologist*, **34**: 108); two, July 5, 1952 (A. Heselden). Bromley, 1960 (4), 1961 (3), 1962 (8), 1963 (2), 1964 (8), 1965 (2); earliest date July 4, 1960, latest date August 18, 1965; maximum daily total (2), July 4, 1960; July 30, August 6, 1962; Crofton, larva on oak (D. R. M. Long). Lee, July 19, 1959 (1) (C. G. Bruce).
3. Den Grove, one at sugar, c. 1936 (J. O. T. Wood). Pine Wood, one, c. 1946 (J. A. Parry).
5. Halstead (R. E. E. Frampton).
6. Eynsford Downs, one, July 16, 1939 (A. R. Kidner). Shoreham, larvae (R. G. Chatelain).
- 6a. Darent Wood (see First Record); (Carrington, *Entomologist*, **12**: 213); several larvae. September 28, 1932; September 12, 1934 (A. R. Kidner); June 13, 1933, larva beaten from oak buds, April 10, 1933 (F. T. Grant); larva and imago (E. J. Hare); not common (B. K. West).
7. Belmont, larva (H. C. Huggins). Westwell, July 15, 1934 (A. J. L. Bowes). Boxley (A. H. Harbottle). Challock (Scott (1964)).
8. Near Whitfield, one, July 24, 1937 (E. & Y. 1949).
10. Sevenoaks (Carrington, *Entomologist*, **12**: 217). Brasted (R. M. Prideaux). Seal Chart (Coote, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1937-38: 45). Westerham (R. C. Edwards); 1953 (L. W. Siggs).
11. Great Chart, 1914 (J. W. C. Hunt). Edenbridge, at light, 1929; larva, 1932 (F. D. Greenwood). Tonbridge, larvae annually but scarce (H. E. Hammond). Aylesford (G. A. N. Davis). Pluckley, one at light, early August 1929 (A. A. Allen). Hoeds Wood, larvae and imago, 1954 (P. Cue). Sevenoaks Weald, seven, June 17-July 12, 1960 (E. A. Sadler).
12. Ham Street, July 21, 1934 (A. J. L. Bowes); one, July 11, 1946, eight, late July 1951; all in Orlestone Woods (C.-H.). Willesborough, one, July 21, 1955, one July 25, 1956, one, July 21, 1963; Wye, one, August 4, 1954 (W. L. Rudland).
13. Tunbridge Wells, scarce (R. H. Rattray, in Knipe (1916)). Pembury,

c. 1950 (V. M. Sage).

14. Tenterden (Beale, *Zoologist*, 4130). Sandhurst, at light (G. V. Bull).
15. St. Mary-in-the-Marsh, one, July 29, 1948 (P. le Masurier).
16. Folkestone, one, August 19, 1953 (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1953-54: 38).

FIRST RECORD, 1835: "Birch, and Darenth Woods" (Curtis, *Br. Ent.*, 575).

**Earias clorana** L.: Cream-bordered Green Pea.

Native. Marshes, stream-sides; on *Salix viminalis*, *S. repens*.

1. Lee, larvae taken by J. Scott, August 1867, on willow near swamp at Hither Green; twelve larvae in garden, August 23, 1891 (Fenn, *Diary*); one, 1902 (Carr, *Entomologist*, 36: 24). Sydenham, one, July 17, 1901 (S. Hammond, in Buckle and Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1901: 61). Lewisham, up to 1897; Bexley district (*Wool. Surv.* (1909)). Elmers End (Wakely, *Entomologist*, 69: 32); larvae on *S. viminalis*, July 29, 1953 (C.-H., *Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 21). Black-heath, two at m.v.l., 1959 (A. A. Allen). Lee, 1952, 1953 (C. G. Bruce).

2. (see First Record). Greenwich Marshes, one, June 9, 1864; Dartford Marshes, one, July 20, 1887 (Fenn, *Diary*). Plumstead (*Wool. Surv.* (1909)); 1952, at m.v.l. (W. J. Popham). Northfleet (L. T. Ford). Oare, larvae (H. C. Huggins).

4. Deal (Harding, *Ent. week. Int.*, 1: 109); some 600 larvae collected by J. W. Tutt, August 1891 (Tutt, *Ent. Rec.*, 3: 9); larvae abundant, 1923 (James, *Ent. Rec.*, 35: 163). Ham; Worth (E. & Y. (1949)). Sandwich (Howard, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1949-50: 14); imago reared from pupa on *S. repens*, August 1957 (C.-H.). Ham Fen, one, July 12, 1955 (W. D. Bowden). Ickham, one, 1959 (D. G. Marsh); series at m.v.l. trap, 1960 (Marsh, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1960: 40).

12. Brook, one, taken at light, June 26, 1951 (C. A. W. Duffield, *fide* Scott (1964)).

15. Appledore, sparsely in osier beds, July 1898 (Heitland, *Entomologist*, 31: 221). Dymchurch, larvae on willow, 1934 (L. T. Ford); one, 1952 (Wakely, *Ent. Rec.*, 65: 43). Old Romney, larvae on *S. viminalis*, and one imago, August 14, 1954 (C.-H.). Dungeness, July 28, 1956 (W. L. Rudland); four at light, July 27 (R. F. Bretherton); one, August 19, 1958 (E. C. Pelham-Clinton); one, July 12, 1959 (C.-H., *Proc. S. Lond. ent. nat. Hist. Soc.*, 1959: 85); one, June 13, 1962, thirty-two, June 5-29, 1964, with max. (16) on June 13 (R. E. Scott); two, August 28, 1964 (T. W. Harman); five, July 17, 1964 (R. G. Chatelain).

16. Folkestone (A. M. Morley).

FIRST RECORD, 1835: "The banks of the Thames at Woolwich, Plumstead and Erith, in Kent" (Curtis, *Br. Ent.*, 575).

NYCTEOLINAE

**Nycteola revayana** Scop. (*undulana* Hübn.): Large Marbled Tort.

Native. Woods, parkland, on oak. Perhaps casual in 9, 15.

1. Birch Wood (Curtis, *Br. Ent.*, 29). Dartford Heath (Curtis, *per* Sheldon, *Entomologist*, 52: 100). West Wickham (Barrett, *Ent. week. Int.*, 7: 75); one, August 21, 1868 (Wormald, *Ent. Ann.*, 1869: 144). Lewisham (Weston, *Entomologist*, 12: 217). Burnt Ash (West, *Ent. Rec.*, 18: 231) (Lee (Fenn, in Buckell & Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1898: 57), may refer). Browns Wood, Eltham, one, May 6, 1886 (Fenn,

*Diary*) (Halfway Street (Fenn, in *Wool. Surv.* (1909)), may refer). Bexley district (L. W. Newman, in *Wool. Surv.* (1909)). Farningham, one, June 12, 1927; larva, July 2, 1929 (A. R. Kidner, *Diary*). Petts Wood, one, November 23, 1935 (S. Wakely). Orpington, 1949 (L. W. Siggs). Abbey Wood, 1954 (C. Hards, *fide* A. J. Showler).

3. Broad Oak, one at ivy bloom, October 8, 1938, one, August 31, 1943, one, July 20, 1946; Den Grove, Sturry, two ♂♂ beaten out of holly and close cover, November 14, 1943, two, July 18, 1944 (C.-H.). Whitstable (P. F. Harris). Pine Wood (J. A. Parry).

5. Halstead (R. E. E. Frampton). Westerham (R. C. Edwards).

6. Ash (E. J. Hare).

6a. Darenth (Curtis, *Br. Ent.*, 29); few larvae beaten, June 28, 1907 (A. R. Kidner, *Diary*); (S. F. P. Blyth); (S. Wakely). Horton Kirby Wood (E. J. Hare).

7. Stockbury; Sharsted (H. C. Huggins). Eastwell (Scott (1936)). Westwell, October 1948, March 8, 1950, 1951, July 22, 1952 (E. Scott). Boxley (A. H. Harbottle).

8. Folkestone\* (Ullyett (1880)). Dover district, widely distributed (E. & Y. (1949)). Dover, "several in some years" (Gardiner, *Ent. Gaz.*, 10: 6).

9. Margate, one, 1932 (P. F. Harris). Northdown, one at ivy, November 15, 1951 (W. D. Bowden).

10. Westerham, one bred 1933 (G. V. Bull); (S. Wakely). Seal Chart (Coote, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1937-38: 45).

11. Wateringbury, three bred, 1905-09, in E. Goodwin coll. (C.-H.). Aylesford (G. A. N. Davis). Hoads Wood, larvae fairly numerous on foliage sprouting from oak tree trunks, c. 1953 (P. Cue). Sevenoaks Weald, six, February 7-May 4, one, October 16, 1960 (E. A. Sadler).

12. Ham Street, July 24, 1934, July 22, 1935 (A. J. L. Bowes). Brook, at ivy, October 1, 3, 1934, two, October 5, 1935 (A. J. L. Bowes). Willesborough, one, August 17, 1956; Wye, one, August 17, 1954, one, March 29, 1956 (W. L. Rudland). Ashford, c. 1950 (P. Cue).

14. Sandhurst, six, each with following data: August 1927; September 8, 1930; March 20, 1935; September 18, 1938; bred August 1949 from larva; bred April 4, 1954 from larva (G. V. Bull, in C.-H. coll.).

15. Dungeness, one, September 10, 1936 (A. M. Morley). Dymchurch, one, 1952 (Wakely, *Ent. Rec.*, 65: 43).

16. Sandling Park; Folkestone Town, three at m.v.l., 1956 (A. M. Morley).

VARIATION.—Stephens (*Haust.*, 4: 146-147), Curtis (*Br. Ent.*, 29), and Sheldon (*Entomologist*, 52: 100 et seq.) record a number of abs. from Kent. Much confusion, however, existed over the nomenclature, for the elucidation of which cf. Sheldon, *Entomologist*, 52: 97-106, 122-129, 55: 131-132. Also, formerly confused with *N. degenerana* Hübn. (q.v.).

FIRST RECORD, 1824: "f. *ramosana* Hb. . . . beat off a tree in July 1823, at Birch Wood, and another taken off paling there" (Curtis, *Br. Ent.*, 29).

#### **N. degenerana** Hübn.: Sheldon's Sallow Tort.

Suspected resident. Woods. Evidently very rare and perhaps now extinct.

Note: This species which was until fairly recently classed as a form of *N. revayana* Scop., was finally added to the British list in 1950 (cf. Cockayne, *Entomologist*, 83: 123-124).

6a. Chattenden.—One, from A. B. Farn coll., labelled "Chattenden", is undated but "apparently was set between the dates 1850 and 1890" (Sheldon, *Entomologist*, 55: 132).

FIRST (PUBLISHED) RECORD, 1922: Chattenden (Sheldon, *loc. cit.*, as *Sarrothripus revayana* ab. *degenerana* Hüb.).

### PLUSIIDAE

#### EUSTROTIINAE

**Emmelia trabealis** Scop. (*sulphuralis* L.): Spotted Sulphur.

Suspected immigrant and temporary resident. Waste ground, clover fields.

This attractive little species is known to have appeared sporadically in Kent for at least a century until its last recorded occurrence about 1903. It has been mainly noticed in north-east Kent, but its history in the county is somewhat obscure due to lack of proper recording, and there appears to be no Kentish specimen extant in any collection.

*Early History.*—The earliest reference to *trabealis* in Kent is that of Donovan (*Nat. Hist. Br. Ins.*, 10: 33), who wrote: "It is said to have been first discovered at Margate and from that circumstance was afterwards known amongst English collectors by the name *Margate beauty*". Some thirty years later, Stephens (1830, *Haust.*, 3: 117) stated it had "occurred near Margate and in other parts of Kent", but gave no particulars.

In 1869, Knaggs (*Qtly. J. Folkestone nat. Hist. Soc.*, 1869 (4), 78) speaking of the Folkestone neighbourhood, remarked that "Mr. Sidebotham some years ago secured a few of this pretty *Noctua* on the Lower Sandgate road, where its foodplant, the lesser *Convolvulus* grows in abundance"; and added (1870, *List of Macro-Lepidoptera occurring in the Neighbourhood of Folkestone*, 22), presumably with reference to the same occurrence: "Enclosure beyond turnpike; June".

1870-1880.—In 1870, the moth was noticed at several places around London (Knaggs, *Ent. Ann.*, 1871: 75), one of which is in Kent. Thus, H. C. Leslie records (*Science Gossip*, 1870: 184) a single fresh specimen that flew to his lamp at Erith (div. 1)\*, on June 22.

Possibly the species survived in north-west Kent for a few years during this period, as on June 17, 1874, C. Fenn (*Diary*) wrote: "Packman was saying yesterday that *E. sulphuralis* is not at all scarce in the clover fields around Darenth"; and in 1879, Carrington (*Entomologist*, 12: 212) gave as a locality for it, the fields surrounding Darenth Wood "now occupied by the Asylum". The record for "Dartford", in V.C.H. (1908), may refer to the latter.

1881-c.1903.—The records show it to have occurred repeatedly in north-east Kent during this period, especially about Dover, where it may have existed as a colonist. Thus, Webb (1891) noted its occurrence at Langdon Hole in 1881; for the Dover area generally, as "somewhat scattered and nowhere common" (1899); and again in 1903 (*S. East. Nat.*, 1903: 54) as "never common here, but persistently occurs each year". In addition, there is the testimony of H. Goss (in V.C.H. (1908)) that "Mr. Webb . . . within the last ten years has known of the capture of individual specimens at Walmer, Dover, Shepherdswell, and Canterbury".

FIRST RECORD, 1801: Margate (Donovan, *Nat. Hist. Br. Ins.*, 10: 33). This is also the first British record.

**Tarache lucida** Hufn. (*solaris* Schiff.): Pale Shoulder.

Immigrant.

8. Near Dover (see *First Record*). Stephens (*Haust.*, 3: 114), writing in 1830, states that four were taken "near Dover above six years ago", which "were rescued from oblivion through the zeal of Mr. Stone". Dale (*Ent. mon. Mag.*, 25: 247), presumably with reference to the foregoing despite discrepancy in date, states that one was taken by Mr. Stone at Dover in June 1825 and that three others were likewise taken there. Walker (*Ent. mon. Mag.*, 45: 181) lists a ♂ in the Dale coll., labelled "Mr. Stone, Dover, June 1825". [On November 17, 1873, Stevens (*Proc. ent. Soc. Lond.*, 1873: xxvii) exhibited one "taken near Dover in 1872", but apparently gave no further particulars. Walker (*loc. cit.*) catalogued two other specimens from Dale coll., a ♀, labelled "Dover", and a ♂, labelled "Dover, Aug. 24, 1876". At the T. H. Briggs sale, October 16, 1917, one labelled "Near Dover by Mr. Hamer" fetched 32s. 6d. Webb (1899) states that "*Acontia solaris* has been captured at Shepherdswell", but does not say when; and in V.C.H. (1908), "Adisham" is given as a locality in addition to "Shepherdswell".]

[Stephens (*loc. cit.*) also records two other examples rescued by Mr. Stone, and which were "taken within the metropolitan range about ten years since", i.e., c. 1820. ? Kentish.]

FIRST (PUBLISHED) RECORD, 1829: "Taken in June, near Dover" (Curtis, *Br. Ent.*, 276). In Curtis, *MS. Register* is: "*Acontia solaris*, June, Dover, they fly by day and love the *Eryngium campestre*" (Walker, *Ent. mon. Mag.*, 40: 193).

**Eublemma ostrina** Hübn.: Purple Marbled.

Immigrant. Four specimens only.

N.d. [1858?]: "I have two old specimens of this species taken very many years ago by Mr. Tyrer in Kent" (Tutt, *Br. Noct.*, 4: 8). In R.C.K. are two specimens labelled "Caught by Tyrer of Brompton, Kent, but exact locality unknown, sent me with others 17.2.91". "Hanbury coll. Stevens sale 15492 lot 340 (Tutt coll.)" (C.-H.).

1880: Dover, "On September 8th I was fortunate enough to take a fine *M. ostrina* on Dover Cliffs . . . I took it about eleven o'clock in bright sunshine" (Gill, *Entomologist*, 13: 242; idem, *Ent. mon. Mag.*, 17: 135). According to Webb (1891, 1899), Gill took it in the Northfall Meadow, adjoining Dover Castle.

1961: Ickham (div. 4), ♀, ab. *carthami* H.-S., taken by D. G. Marsh in m.v. trap in his garden, September 16 (Marsh, *Ent. Rec.*, 74: 52; idem, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1961: 43).

FIRST (PUBLISHED) RECORD, 1880: Dover (Gill, *Entomologist*, 13: 242).

**E. parva** Hübn.: Small Marbled.

Immigrant. Nine confirmed examples.

1947: Sheppey (div. 2), ♀, taken at light, by J. A. Walker, June 30 (Walker, *Entomologist*, 80: 229). R. C. Edwards, who was present at the time, tells me the place of capture was on the south side of the island, a few hundred yards east of Kingsferry Bridge, where *Inula crithmoides* grows (C.-H.).

1953: In this year there occurred a widespread invasion of *parva* in S. England, with a total of six captures in Kent, all at m.v. traps. Wye (div. 12), one May 21, one August 28, both taken by W. L. Rudland (Rudland,

*Ent. Gaz.*, **4**: 250). Folkestone Town (div. 16), one May 23, one May 25, two May 26, all taken by A. M. Morley (French, *Entomologist*, **87**: 265-266; Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1953-54: 38).

1959: Otford (div. 6), one taken at m.v.l. by W. B. L. Manley, July 21 (Manley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1959: 41). Folkestone Town (div. 16), one taken by A. M. Morley in m.v. trap (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1959: 43).

[“One specimen from the Sellon Collection labelled ‘Dover, Cummings Collection’” (1921, Woodforde, *Entomologist*, **54**: 162); is unconfirmed from any other source (C.-H.).]

FIRST (CONFIRMED) RECORD, 1947: Sheppey (Walker, *Entomologist*, **80**: 229).

#### **Lithacodia fasciana** L.: Marbled White-spot.

Native. Woods; foodplant unknown. Suspected casual in 15.

Note: Its apparent absence from div. 1 for more than 60 years until its reappearance there in 1952, is remarkable.

1. (See First Record.) West Wickham Wood (Perkins, *Ent. week. Int.*, **4**: 111). Shooters Hill Wood, one, July 12, 1862 (A. H. Jones, teste Fenn, *Diary*). Lee, one, June 21, 1864 (Fenn, *Diary*). Forest Hill, 1886 (Cansdale, *Ent. Rec.*, **2**: 69). Sidcup, July 12, 1883 (G. H. Hickling and H. E. Page MS.). S.-E. London area, once locally common, now (1894) extinct (Fenn, *Ent. Rec.*, **6**: 231).

Petts Wood, 1952-53 (A. M. Swain). Keston, a few in 1952 (R. F. Birchenough, in *de Worms, Lond. Nat.*, 1955: 65). Orpington, 1954 (L. W. Siggs). St. Mary Cray, 1957 (R. G. Chatelain). Lee, June 20, 1954, June 20, 23, 1959 (C. G. Bruce). Blackheath, one at m.v.l., May 11, 1959 (A. A. Allen). Bromley, one, June 24, 1961, one, June 27, 1964, one, June 29, one, July 21, 1965; all in m.v. trap (D. R. M. Long).

3. Broad Oak district.—Locally frequent but not numerous in the surrounding woods, 1936-52; the moth being mostly beaten out by day and taken at light; at Great Hall Wood, Barton Wood, Paddock and West Blean Woods (C.-H.). Church Wood, one, 1947 (J. A. Parry).

5. Westerham (R. C. Edwards).

6. Greenhithe\* (Farn MS.). Horton Kirby (E. J. Hare).

6a. Swanscombe Wood (Hodgkinson, *Zoologist*, 2328). Darenth (Meek, *Ent. mon. Mag.*, **1**: 191). Darenth Wood (E. J. Hare). [Chattenden?] 1874 (Porritt, *Entomologist*, **7**: 181). Chattenden, on oak trunks (Chaney (1884-87)).

7. Westwell, June 22, 1946 (Bull, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1946-47: 168); 1947 (E. Scott).

8. Folkestone Warren, one (Knaggs (1870)). Kearsney, one at sugar, June 25, 1901; one on tree-trunk, June 27, 1903; one, June 20, 1906 (H. D. Stockwell, *Diary*). Nonington, three, c. 1954 (W. D. Bowden). Bettehanger, July 6, 1957 (R. F. Bretherton).

10. Seal Chart (Coote, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1937-38: 45).

11. Aylesford, c. 1953 (G. A. N. Davis). Sevenoaks Weald, June 21-July 3, 1959 (3), June 18-July 9, 1960 (3) (E. A. Sadler).

12. Ham Street (Scott (1936)); frequent in Orlestone Woods annually; fairly plentiful at light in Long Rope, 1954 (C.-H.). Ashford, two, 1955-56 (P. Cue). Willesborough, one, 1955, one, 1957 (W. L. Rudland). Wye, two, 1955-56 (W. L. Rudland).

13. Tunbridge Wells (E. D. Morgan); 1957, 1958, occasional (L. R. Tesch, *fide* C. A. Stace); one, 1955 (C. A. Stace). Goudhurst, common (W. V. D. Bolt, *pers. comm.*, 1961). Cranbrook, 1961 (C. G. Orpin).

14. Tenterden, c. 1855 (S. C. T. Beale, *Diary*). Warehorne (Scott (1936)). Hawkhurst, one at light, 1951 (H. Boxall).

15. Dymchurch (Wakely, *Ent. Rec.*, **65**: 44). Dungeness, June 30-July 3, 1954 (R. F. Bretherton).

16. Folkestone Town, ♀, at m.v.l., August 1956 (A. M. Morley).

VARIATION.—Hare (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1956: 31, plt. 3, fig. 7) exhibited a specimen of ab. *albilinea* Haw., taken at Ham Street, 1956.

FIRST RECORD, 1830: "No. *fuscula* . . . found near Chisselhurst and Bexley woods" (Stephens, *Haust.*, **3**: 120).

#### **L. *deceptoria*** Scop.: Pretty Marbled.

Suspected resident. Woods.

7. Westwell, ♂ taken by E. Scott on the lighted window of his kitchen, May 25, 1953 (Scott, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1953-54: 43).

8. Brook, one taken at light by C. A. W. Duffield, May 30, 1954 (Duffield, *Trans. Folkestone nat. Hist. Soc.*, 1954: 23).

12. Orlestone Woods, Ham Street.—One taken at light by A. Richardson, June 14, 1948 (Richardson, *Entomologist*, **81**: 221; *idem*, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1948-49: 43); one taken by W. B. L. Manley, June 8, 1952 (Manley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1952-53: 39); ♂ taken by E. J. Hare, at light, May 27, 1954 (Hare, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 30, plt. 1, fig. 2); ♂ taken by P. B. Wacher at m.v.l., May 28, 1956 (C.-H., *Ent. Rec.*, **68**: 189). [(Ham Street, 1949 (*Entomologist*, **82**: 255)). This record which has hitherto apparently remained uncorrected, is based on misidentification. The reference to *deceptoria* in *Entomologist*, **83**: 194, is a duplication of this error (C.-H.).]

FIRST RECORD, 1948: Ham Street (Richardson, *Entomologist*, **81**: 221). This is also the first British record.

#### **Eustrotia bankiana** F. (*olivana* Schiff.; *argentula* Hübn.): Silver Barred.

Probable immigrant.

16. Folkestone Town, one taken by A. M. Morley in m.v. trap in his garden on August 5, 1965† (A. M. Morley).

FIRST RECORD, 1965: Folkestone (A. M. Morley).

#### **E. uncula** Clerck (*uncana* L.): Silver Hook.

Native. Marshes, bogs; foodplant unknown. Probably casual in 1, 7.

1. Bromley, one at m.v.l., July 15, 1962 (D. R. M. Long).

2. Near Dartford\*, one, May 29, 1869 (Boden, *Entomologist*, **4**: 293).

4. Near Deal, one, 1858 (Standish, *Ent. week. Int.*, **4**: 146). Ham Marshes, July 9 (1), 11 (2), 1891 (Fenn, *Ent. Rec.*, **2**: 203); fairly common, July 15, 1935 (J. H. B. Lowe). "Not uncommon in some of the damper spots near Ham and Worth" (E. & Y. (1949)). Sturry, one at light at Milner Court, July 17, 1936 (J. O. T. Wood).

7. Westwell, one, July 24, 1953 (E. Scott).

12. Hothfield Bog, several, July 1, 1938 (Scott (1950)); June 21, 1958, July 17, 1960 (Scott, *Bull. K. Fld. Cl.*, **4**: 14; *idem*, *Bull. K. Fld. Cl.*, **6**: 27). Brook, one, 1951 (Scott (1964)). Chartham, one, June 14, 1950 (P. B.

Wacher). Gibbon's Brook, one, June 16, 1950 (R. Cheesman).

15. Dungeness.—One, August 20, 1932 (de Worms, *Entomologist*, **66**: 106); three at light by the ballast excavation, August 3, 1937 (A. J. L. Bowes); several, June 18, 1938 (C.-H.); one, early June 1958 (Wakely, *Ent. Rec.*, **71**: 93); May 27 (2), June 12 (2), 14 (1), 1962, June 18 (1), July 18 (1), 1964 (R. E. Scott); several, June 12, 13, 1962 (T. W. Harman); one, July 17, 1964 (R. G. Chatelain).

FIRST RECORD, 1858: Near Deal (Standish, *Ent. week. Int.*, **4**: 146).

#### CATOCALINAE

##### **Catocala fraxini** L.: Clifden Nonpareil.

Resident, perhaps native. Woods, groves; on aspen.

The Clifden Nonpareil occurred annually in East Kent (v.-c. 15) from 1946-56, and was locally not scarce in div. 12 during its optimum around 1950, but showed a marked decline after 1954. In the good period and given the right conditions, there was always a fair chance of seeing it in the course of an evening's sugaring, though a proper knowledge of the locality and of its habit of visiting the mixture early was a necessary qualification. On September 11-12, 1953, a total of thirteen *fraxini* was noted by me at sugar and light, possibly a record number for this species; it is also of interest that one of these, a ♀, although already a little worn when taken, survived until October 25 after laying more than 500 ova, and thus had a life span of over six weeks (C.-H.).

1. Near Birch Wood, September 7, 1827, taken by J. Standish, senior (Stephens, *Houst.*, **3**: 131; Walker, *Ent. mon. Mag.*, **45**: 181). Near Dartford Heath (Anon., *Ent. Mag.*, **3**: 314); may refer to the foregoing occurrence (C.-H.). [Chislehurst (Wollaston, *Zoologist*, 5001), is doubtfully genuine. Bromley, c. 1892 (Alderson, *Ent. Rec.*, **7**: 43).] Holwood, Farnborough, one taken at sugar, August 23, 1895 (Alderson, *Ent. Rec.*, **7**: 43). Eltham, September 3, 1900, one taken at sugar by G. Grey (Poore, *Ent. Rec.*, **12**: 304-305). Joydens Wood, one, July 24, 1920, resting on apple-tree trunk, taken by J. M. Jaques (Jaques, *Entomologist*, **53**: 210).

2. Rochester, at sugar, September 2-3, 1888 (Winkley, *Entomologist*, **22**: 282).

3. [Pine Wood, near Canterbury.—Six taken between 1867 and 1874 (Parry, *Entomologist*, **5**: 58, **6**: 222, **7**: 289); one taken by G. Parry, August 25, 1894 (S. Wacher MS.).] Herne Bay, one on sycamore trunk, September 13, 1924 (Bowes, *Entomologist*, **57**: 235).

4. "Near Deal, in September, 1828; and the larva in the following year"—Miss Harvey\*\* (Stephens, *Houst.*, **3**: 326).

8. [Near Dover, 1864, one at A. Stiff sale (Rait-Smith, *Entomologist*, **70**: 160).] Stowting, one on sugared lime leaf, September 17, 1922 (Duffield, *Entomologist*, **55**: 237).

12. Ham Street.—1935, September 19-20 (Hawkins, *Entomologist*, **70**: 241); 1937, one September 12, taken by S. G. Wallis Norton (Norton, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1937-38: 19); 1947, one taken in Long Rope by A. Richardson (Richardson, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1947-48: 351); 1948, September 9-20, twelve taken and about eight others seen by H. B. D. Kettlewell and others (Kettlewell, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1948-49: 21; Howarth, *Ent. Gaz.*, **1**: 41-44; Dannreuther, *Entomologist*, **82**: 107). A young larva found by R. I. Lorimer on a small aspen, June 26, 1949 (Howarth, *Ent. Gaz.*, **1**: 44); which his brother, J. A. Lorimer,

informed me was taken in Orlestone Woods (C.-H.). At sugar, September 3 (1), 5 (1), and about 10 by other collectors, September 1-10, 1949 (R. F. Bretherton). On September 7, 1949, "missed a *fraxini* which I had in my net, having been watching it ovipositing low down in the crevices of the bark of an aspen tree" (A. V. Hedges, *Diary*). 1950, one on telegraph post, September 9, one on tree trunk, September 13 (E. Scott). 1950, 1951 (de Worms, *Entomologist*, **84**: 152, **85**: 115). 1953: September 11-12 (13) (C.-H.); August 31 (1) (P. Cue); August 30 (2), September 18 (1) (de Worms, *Ent. Rec.*, **65**: 328, **66**: 48). 1954, ♀, September 15 (W. L. Rudland). 1955, "rare this summer" (Scott, *Bull. K. Fld. Cl.*, **1**: 10). 1956, one (W. V. D. Bolt). The only confirmed records of its occurrence in the area since 1956 are: 1961, ♂ taken by R. L. Harvey at sugar in Faggs Wood, September 7 (R. L. Harvey, *in litt.*). 1964, one at sugar in early September, at Bromley Green (J. Green).

Kingsnorth, ♂ taken resting on a wall in evening, by J. H. P. Sankey, September 12, 1946 (Sankey, *Ent. mon. Mag.*, **82**: 278). Ashford, on September 16, 1946, a boy saw the blue underwings of one but failed to catch it by hand (Dannreuther, *Entomologist*, **80**: 140).

13. Tunbridge Wells, one in August 1893, in the Pantiles at rest on a tree (Shepheard-Walwyn, *Entomologist*, **26**: 301).

16. Folkestone\*, one taken September 5, 1874 (Oldham, *Entomologist*, **7**: 228); ♂ taken (in 1895), on sugared willow tree (Simmons, *Entomologist*, **28**: 308); one taken sitting on an oak trunk, July 5, 1953 (Newman, *Entomologist*, **86**: 197). Hythe, one, "shown me on the cricket pavilion of Seabrook Lodge School, Hythe in 1934" (B. O. C. Gardiner).

VARIATION.—In R.C.K. are six from Ham Street labelled ab. *contigua* Schultz; also one from Ham Street of ab. *gaudens* Stdgr. (C.-H.).

Morley (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1949-50: 39, plt. 3, fig. c) exhibited a ♂ bred 1949 from Ham Street, which became the holotype of ab. *suffusa* C.-H.

Ab. *moerens* Fuch., one taken by A. Richardson, Ham Street, August 31, 1948; ab. *gaudens* Stgr., two closely approaching this were taken at Ham Street, one by A. V. Hedges, 1949, one by A. Richardson, 1947 (A. Richardson).

FIRST RECORD, 1828: "Mr. Haworth's extensive cabinet contains an example from Kent" (*Curtis, Br. Ent.*, 217).

### **C. nupta** L.: Red Underwing.

Native. Woods, marshes, waysides, etc.; on willow, poplar. In all divisions. "Generally common" (V.C.H. (1908)).

The moth is usually noted in small numbers at sugar, or as odd examples at light, and very occasionally at ivy; although fairly frequently seen by day on telegraph posts, and sometimes on wooden fences, tree-trunks and walls. Apparently only rarely has it been seen in any abundance, as at Tonbridge in 1916, when twenty a night could have been taken at sugar (Rattray, *Entomologist*, **49**: 284); and at Ham Street in 1953, when there were 20-30 at sugar there on August 31 (de Worms, *Ent. Rec.*, **65**: 328, **66**: 48).

The larva has been noted at Herne Bay (div. 3) on poplars, "larvae can be found by day on the trunks—but very hard to see" (A. J. L. Bowes); on poplars at Belvedere (div. 2) (Smart, *Trans. Cy. Lond. ent. nat. Hist. Soc.*,

1896: 21); at Faversham, June 27, 1954, some larvae were found on the bark of willows (Marsh and Youden, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 85); and at Ashford, "in great numbers on willow" (Russell, *Ent. week. Int.*, **10**: 100).

VARIATION.—Two specimens of the rare ab. *caerulescens* Cockerell (*brunnescens* Warren may be synonymous according to E. A. Cockayne in MS. note in R.C.K.) appear to have occurred in Kent, as follows: Crossness Outfall, Belvedere (div. 2), 1896, one bred from wild larva (Smart, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1896: 21); Chislehurst, ♂, at sugar, September 1929, I. Harman (C.-H. coll.).

Cockayne (*Ent. Rec.*, **63**: 162) described ab. *nigra* holotype ♂, bred Dartford, August 30, 1920, and originally recorded by Lancum (in *Entomologist*, **53**: 236).

FIRST RECORD, 1847: Lewisham, 1846 (*Stainton, Zoologist*, 1790).

**C. sponsa** L.: Dark Crimson Underwing.

Resident, suspected native. Woods [on oak]. Mainly wealden.

1. Birch Wood; near Sydenham Woods; Shooters Hill (Stephens, *Haust.*, **3**: 134). Near Blackheath, one at sugar in a wood, September 1, 1887 (Dannatt, *Entomologist*, **20**: 306). Bexley, once (C. Fenn, in *Wool. Surv.* (1909)); may refer to the latter occurrence.

4. Deal\*, one taken at sugar on an apple tree (in 1868) (Harding, *Entomologist*, **4**: 155).

6a. Darenth (Stephens, *Haust.*, **3**: 134). Darenth Wood, a fine specimen taken in June (1846) (Harding, *Zoologist*, 1515); is remarkably early date (C.-H.).

8. Dover.—"Mr. Webb states that it has been taken at Dover" (V.C.H. (1908)).

12. Ham Street Woods.—1945: a ♂ taken by me at sugar on August 5 in Long Rope (C.-H.); 1946; one taken July 31 (D. G. Marsh); 1947; one, August 2 (de Worms, *Entomologist*, **81**: 140); 1949: September 9, worn ♀ (A. V. Hedges, *Diary*); one at sugar, September 5 (R. F. Bretherton); September 16 (R. C. Edwards); 1950: August 10, one (E. J. Hare); 1952: ♀, August 9, taken by A. Richardson and given to E. J. Hare (A. M. Morley); 1953: August 26, one (A. H. Harbottle); August 28, two (de Worms, *Ent. Rec.*, **65**: 328); 1954: August 30, one (P. Cue); September 12, one at sugar (de Worms, *Entomologist*, **88**: 61).

14. Great Heron Wood.—"A series of a dozen taken at rest on oak trunks during the heat-wave of July 30 to 31, 1948" (Cockayne and Kettlewell, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1948-49: 27). With reference to the phenomenal number of *C. sponsa* and *C. promissa* Schiff. seen on this occasion, H. B. D. Kettlewell writes (*in litt.*) that "due to the extreme heat of the day, both species, for about two hours after midday, left the canopy of the oak trees and were flying everywhere throughout the wood, and settled in numbers in the cooler parts of the wood on the trunks"; and adds that the "two species of *Catocala* were in about equality, and I would say I caught upwards of a dozen each, but saw many others".

15. Dungeness, one taken August 12, 1932 (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1932-33: 111).

16. Park Farm, Folkestone (Ullyett (1880), 26). Sandling Park, taken by Major Hardy, c. 1905 (A. M. Morley).

VARIATION.—Individuals taken in S. Kent differed from "normal Hampshire specimens in having chocolate-brown forewings, without the usual conspicuous pattern" (Cockayne and Kettlewell, *loc. cit.*). On October 28, 1950, Classey and Robinson (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1950-51: 26) exhibited "a bred series ex female Ham Street, Kent, of a form markedly different from the New Forest form".

FIRST RECORD, 1830: Stephens, *loc. cit.*

**C. promissa** Schiff.: Light Crimson Underwing.

Resident, suspected native. Woods; on oak. Mainly wealden.

1. West Wickham Wood, two ♀♀ taken at sugar, August 19, 1893 (Robinson, *Ent. mon. Mag.*, **29**: 261).

6. Kent [? Gravesend]\*, several at sugar, 1870 (Button, *Entomologist*, **5**: 222).

8. Dover.—One in H. D. Stockwell coll. labelled "Folkestone Rd., Dover, Aug. 1872, C. G. Hall" (C.-H.); one in 1935 or 1936 (Gardiner, *Ent. Gaz.*, **10**: 9).

11. Hoads Wood.—First seen July 20, 1950, then annually to 1955; in 1953, noted seven in one night; have also taken larvae (P. Cue); one full-grown larva beaten from oak, May 29, 1953 (W. L. Rudland); two at sugar, 1955 (W. V. D. Bolt).

12. Ham Street Woods.—c. 1931: one seen flying about, by H. B. D. Kettlewell (A. M. Morley); 1947: one taken at sugar, July 11, by A. M. Morley (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1947-48: 33), and another seen by him July 26 (A. M. Morley); 1948: two moths (D. G. Marsh); 1949: a larva (Scott (1950)); two or three moths disturbed from oaks by day (A. M. Morley); 1950: one, July 20 (E. J. Hare); one (G. Law); 1951: three ♂♂ at m.v.l., Long Rope, July 20-31 (C.-H., *Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 21); one, August 7, one, August 9 (E. J. Hare); 1952: one (A. Richardson, teste A. M. Morley); one (G. Law); 1953: one, July 30 (E. J. Hare); one worn specimen, August 30 (de Worms, *Ent. Rec.*, **65**: 328).

13. Pembury (Stainton, *Man.*, **1**: 316). [Tunbridge Wells, at sugar in Tangier Lane (A. L. H. Townsend, teste E. D. Morgan); is probably just in Sussex (C.-H.).] Goudhurst, one at light, 1955 (W. V. D. Bolt).

14. Great Heron Wood, small series taken by E. A. Cockayne and H. B. D. Kettlewell by daytime on oak trunks, July 30-31, 1948, together with *C. sponsa* (q.v.) (Cockayne and Kettlewell, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1948-49: 27). [(“Hawkhurst neighbourhood” (de Worms, *Entomologist*, **67**: 102) refers to Beckley, Sussex (C. G. M. de Worms, *in litt.*)).]

16. Park Farm, Folkestone (Ullyett (1880)). Hythe, one taken 1895 (Adkin, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1900: 94). Sandling Park, taken by Major Hardy, c. 1905 (A. M. Morley).

VARIATION.—The specimen taken at Hythe in 1895, and exhibited by B. Adkin, is described as "having pale upper and hind wings, with narrower and straighter medium band".

FIRST RECORD, 1857: Pembury (Stainton, *Man.*, **1**: 316). Note: The Pembury records in the *Manual* are based on those of J. Jenner Weir (C.-H.).

**Minucia lunaris** Schiff.: Lunar Double-stripe.

Resident, perhaps native. Woods; on oak.

The habitat preference is a clearing where the oaks have been recently felled and from the stumps of which, or "stool oaks", an abundance of fresh tender shoots (so essential to the young *lunaris* larva) has materialised<sup>1</sup>.

The species reached a peak about 1950, at which time it was probably more generally distributed in 12 and 14 than the records show, and in addition may well have occurred in suitable areas in 11, 13 and 16. During the past decade, however, *lunaris* has hardly been seen at all, and the last confirmed occurrence is of one in 1958.

1. West Wickham Wood, one taken at sugar, end of May 1860, by Mr. Smith of Walworth (Bigg, *Ent. week. Int.*, **8**: 91; Newman, *Zoologist*, 7108-7109; see *First Record*).

8. Reinden Wood, one taken by W. Purdey, June 28, 1876, is in Folkestone Mus. (A. M. Morley). Folkestone (Ulliyett (1880)), probably refers to the latter occurrence.

[9. Ramsgate.—At the Stevens coll. sale, an "example of *Ophioches lunaris*, catalogued as taken near Ramsgate in 1874, fetched £1 8s." (Anon., *Entomologist*, **33**: 179).]

12. Orlestone Woods, Ham Street.—G. V. Bull beat out three larvae from oak bushes in Burnt Oak Wood, two on July 28, one on July 29, 1942, one was parasitized, the other two produced moths on April 14 and 27, 1943 (Bull, *Diary* and pers. comm.; also Bull, *Entomologist*, **76**: 114; idem., *Proc. S. Lond. ent. nat. Hist. Soc.*, 1943-44: 4); this being the first authentic instance of the discovery of the larva in this country. 1947: On May 25, I took a ♂ *lunaris* at sugar on an oak trunk in Long Rope Wood, the first wild moth to be seen in Britain for over 40 years (C.-H.); a very worn ♀ was taken by L. Christie about June 20 in Faggs Wood (Christie, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1947-48: 21).

1948: Ten moths taken by E. J. Hare, F. T. Vallins and myself at sugar in Burnt Oak Wood, June 4-10 (C.-H.); about 26 moths seen between May 28 and June 16 by a party of entomologists searching the neighbourhood (Kettlewell, teste Dannreuther, *Entomologist*, **82**: 108); a worn ♀ taken by D. G. Marsh at sugar, June 17 (D. G. Marsh, *Diary*); larvae found commonly in Faggs Wood by A. M. Morley and others in July (A. M. Morley). 1949: June 28, a larva (R. C. Edwards); in this year *lunaris* was noted by various people, in Long Rope, Burnt Oak, Birchett, and Faggs Woods, chiefly at sugar but also at light; from 1950-55, it was noted annually, though less frequently since 1952, in which year it was comparatively scarce, particularly in the larval state. 1950: June 3, ♀ hovering over stool oak at 10.45 p.m. (C.-H.); July 8, "larvae plentiful, mostly very small" (D. G. Marsh, *Diary*); larvae, July 25 (R. C. Edwards); 1951: July 5, twelve small larvae beaten from stool oaks in a short while (H. King); 1953: July 18, two small larvae in an hour's beating (P. B. Wacher and C.-H.); 1954: May 19, ♂ taken by P. B. Wacher (P. B. Wacher); 2 or 3 moths at light, May 28 (E. Scott); a larva in Faggs Wood, July 7 (P. Cue); 1955: one seen at light by E. J. Hare (P. B. Wacher); 1958: one taken in Long Rope by R. C. Edwards, June 6 (R. C. Edwards).

For further records of occurrence cf. *Entomologist*, **84**: 103; *Ent. Rec.*, **65**: 40, 44, **66**: 48, 246. Also, *Ent. Gaz.*, **12**: 3, where Howarth records a hymenopterous hyperparasite, *Astiphromma strenuum* Holmgr.

<sup>1</sup>This highly interesting discovery was first made by H. B. D. Kettlewell, during an intensive study of the species at Ham Street in 1948.

14. Hunts Wood, thirty-four larvae, July 7-9, 1949 (A. M. Morley).  
 16. Park Farm, Folkestone, one taken at sugar, by W. J. Austen, May 30, 1892 (Austen, *Ent. Rec.*, 3: 132; *Proc. Folkestone nat. Hist. Soc.*, 1892: 26).

**VARIATION.**—There is considerable variation in my series from Ham Street of some fifty (mostly bred) examples, including three ab. *olivescens* Warren, six ab. *murina* Oberth. Also in this series, are ab. *cantiana* C.-H., two ♂♂ including holotype; ab. *centralis* C.-H., five, including holotype ♂ (C.-H., *Entomologist*, 94: 283).

Cockayne (*Ent. Rec.*, 65: 81) describes ab. *radiata*, holotype ♀, bred Ham Street, 1949; and in R.C.K. are the following named abs. from Ham Street: *clara* Lempke; *cingulata* Lempke; *brunneogrisea* Lempke; *brunnea* Lempke; all of them singletons. The record of ab. *maura* Ob. (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1951-52: 30), is not referable to this ab. (G. Haggett, *in litt.*).

**FIRST RECORD**, 1860: One taken at sugar in West Wickham Wood by Mr. Smith of Walworth, end of May 1860, was exhibited at last meeting of the Haggerstone Entomological Society (Bigg, *Ent. week. Int.*, 8: 91). "A magnificent specimen . . . was taken at sugar on Whit-Sunday last, by Mr. Smith, a collector living at Walworth". "It was brought to me to name by Mr. Clements" (Newman, *Zoologist*, 7108-09).

#### ***Euclidimera mi* Clerck: Mother Shipton.**

Native. Downs, meadows, waste ground, etc.; on "clover", "grasses". Recorded from all divisions except 16 (almost certainly occurs). "Generally common" (V.C.H. (1908)).

The moth is of frequent occurrence, but is seldom seen in any abundance due possibly to its natural disinclination to fly freely. J. F. Burton noted it as "plentiful" at Charlton Sandpit, May 5, 1948; and D. F. Owen observed it as "locally abundant", c. 1947, at Shooters Hill golf course, Lee, Eltham, and Kidbrook. On the chalk down above Otford, June 2, 1951, some 40-50 seen within 1½ hours; they were flying quite freely (like *Ectypa glyphica* L.) which is most unusual, at least in my experience of *mi* (C.-H., *Ent. Rec.*, 63: 144-145).

Though not generally considered a nocturnal insect, this moth has on one occasion been taken in an m.v.l. trap: Dungeness, one, June 14, 1962 (R. E. Scott).

Single larvae were noted at Bromley on clover in 1949, on August 7, 28. Sepember 4 (D. Lanktree); three larvae are also recorded as having been taken at Dungeness on "various grasses", from which many *Apanteles fraternus* Reinh. were bred in 1952 (Wightman, teste Hammond & Smith, *Ent. Gaz.*, 8: 184).

**VARIATION.**—Morley (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1946-47: 36) exhibited abs. *litterata* Cyrilli and *extrema* Bang-Haas, both from Folkestone; B. K. West took a ♀ ab. *costimacula* Cockayne, Swanscombe Wood, 1947 (B. K. West coll.); in R.C.K., are two specimens from Walderslade, labelled as ab. *ochrea* Tutt; and Witting (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1929-30: 53) exhibited an ab. from West Wickham, with "much irregular suffusion of black scaling especially on the basal half of the hind-wings and the costal half of the discal area of the forewings".

**FIRST RECORD**, 1837: Dover, larvae found "eating the leaves of some grass" (Curtis, *Br. Ent.*, 659).

**Ectypa glyphica L.**: Burnet Companion.

Native. Chalk downs, rough meadows, railway banks, woodland clearings, etc.; foodplant unknown. Appears to show a marked preference for chalk soils, and is frequent in 5-8, but nevertheless curiously absent from 9. "Generally common" (V.C.H. (1908)).

There is no evidence of a second generation, and the moth seems to appear in one long protracted emergence reaching optimum in June. It is usually observed on the wing from the latter half of May; but in 1912 was noted at Chevening as early as April 27 and 28 (Gillett, *Diary*); and in 1910, near Gravesend, as late as August 18.

1. Bexley (L. W. Newman, in *Wool. Surv.* (1909)). Brockley (W. West, in *Wool. Surv.* (1909)). Farningham, one, June 28, 1924 (A. R. Kidner, *Diary*). Sunbridge Park, May 22, 1947 (Hyatt, in de Worms, *Lond. Nat.*, 1955: 70). Elmstead Wood, c. 1947; Shooters Hill golf course, c. 1947 (D. F. Owen). Petts Wood, 1948, 1950 (A. M. Swain). Keston, one, June 25, 1950 (C.-H.). Blackheath, one in garden, c. 1953; near Charlton, c. 1958 (A. A. Allen). Hayes; West Wickham (de Worms, *loc. cit.*).

3. Blean (H. C. Huggins); 1938 (J. L. Atkinson). East Blean Wood, June 6, 1922 (H. G. Gomm, *Diary*). Whitstable; Herne (P. F. Harris). Blean district, scrubby places (D. G. Marsh).

10. Brasted (R. M. Prideaux).

11. Shipbourne, in D.J.A. & P. A. Buxton coll. (C.-H.). Aylesford, c. 1953 (G. A. N. Davis).

12. Birchett Wood, Ham Street, one, May 29, 1949 (C.-H.). Ashford district, c. 1960 (M. Singleton).

13. Tunbridge Wells district (Cox, *Entomologist*, 4 (62), ii). Tunbridge Wells, common (E. D. Morgan). Frith Wood (B. G. Chatfield). Goudhurst, formerly common now scarce (W. V. D. Bolt, *pers. comm.*, 1961). Near Ashurst, in a field, 1959 (C. A. Stace).

14. Tenterden (see *First Record*). Hawkhurst; Gills Green (B. G. Chatfield).

FIRST RECORD, 1857: Tenterden (Stainton, *Man.*, 1: 319).

## PANTHEINAE

**Colocasia coryli L.**: Nut-tree Tussock.

Native. Woods, parks; on beech, maple, hornbeam. V.C.H. (1908) gives four localities and calls it "scarce".

1. Birch Wood (Stephens, *Haust.*, 2: 60). West Wickham, bred from larvae (West, *Ent. Rec.*, 18: 171). Eltham (V.C.H. (1908)). Bexley district (L. W. Newman, in *Wool. Surv.* (1909)). Fanringham Wood, two larvae, September 11, 1937 (A. R. Kidner, *Diary*). Dartford, ♂, August 4, 1946 (B. K. West). Orpington, 1948, 1951, 1954, 1956 (L. W. Siggs). St. Mary Cray, 1956 (R. G. Chatelain). West Wickham (E. E. J. Trundell, in de Worms, *Lond. Nat.*, 1954: 66).

3. Whitstable (P. F. Harris). Canterbury (J. A. Parry). Broad Oak, two at electric light, July 31, 1948 (C.-H.). Herne Bay (D. G. Marsh).

4. Ickham, one, 1955, one, 1961 (D. G. Marsh).

5. Chevening, larva, October 1917 (Gillett, *Diary*). Downe, August 6, 1961 (C. G. Bruce).

6. Gravesend, street lamps (H. C. Huggins). Meopham Downs (F. T. Grant). Shoreham, larvae on beech (S. F. P. Blyth). Eynsford, larva (Blair, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1933-34: 33); larva, September 29,

1933, larva, September 27, 1934, larva, July 16, 1939 (A. R. Kidner); three, May 24, 1960 (R. G. Chatelain). Meopham, May 8, 10, July 7, August 7, 1960 (J. Ellerton).

6a. Darenth Wood (Stephens, *loc. cit.*); (E. J. Hare). Chattenden, larva (H. C. Huggins). Horton Kirby Wood (E. J. Hare).

7. Wigmore Wood (Chaney (1884-87)). Belmont (H. C. Huggins). Westwell, larvae on beech (Scott (1936)); "common from early May until late September" (Scott (1964)). Challock (Scott (1964)). Boxley (A. H. Harbottle).

8. Folkestone\* (Ullyett (1880)). Wye; Brook\* (C. A. W. Duffield). Dover, 1900 (Stockwell, *Entomologist*, 34: 26); "moderately common in all the woods" (E. & Y. (1949)). Elham (W. E. Busbridge). Covert Wood, several, April 10, 1956 (W. D. Bowden).

10. Brasted, larva common some years (R. M. Prideaux). Brasted Chart, July 28, 1917; Sevenoaks, May 26, 1919, August 14, 1920 (Gillett, *Diary*). Sevenoaks (W. E. Busbridge). Westerham (Carr & Turner, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1924-25: 107). Knole Park, larva on beech, 1947 (F. D. Greenwood). Seal Chart, larva (Howarth, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1948-49: 71).

11. Wateringbury (V.C.H. (1908)). Hoads Wood (G. V. Bull); May 24, 1954 (P. Cue). Edenbridge, one at light, 1933 (F. D. Greenwood). Aylesford (G. A. N. Davis). Great Chart, several larvae beaten out of maple on the edge of a wood near Chart Rocks (P. Cue). Sevenoaks Weald, May 10, 11, 1959, eighteen between May 3 and August 3, 1960 (E. A. Sadler).

12. Ham Street, "often comes to light" (Scott (1936)); frequent annually particularly in the second generation (C.-H.). Ashford Town (P. Cue). Wye, August 1-11, 1953 (6), April 30-May 25 (23), July 30-August 24 (11), 1954; April 28-May 26 (6), August 2-19 (14), 1955; May 1-29 (19), July 20-September 10 (35); Willesborough, May 10 (3), August 13-28 (3), 1954; August 2-4 (2), 1955; April 30-May 16 (4), July 20-August 10 (3), 1956 (W. L. Rudland). Faggs Wood, Ham Street, larva on hornbeam, June 12, 1960 (C.-H., *Proc. S. Lond. ent. nat. Hist. Soc.*, 1960: 84).

13. Southborough, (M. M. Phipps, in Knipe (1916)). Iden Green, one, 1951 (H. Boxall). Tunbridge Wells, two, 1958 (L. R. Tesch, *per* C. A. Stace). Goudhurst, common (W. V. D. Bolt, *pers. comm.*, 1961).

14. Hawkhurst, two, 1953 (B. G. Chatfield). Appledore, one, 1956, at light (M. Singleton).

15. Stone, near Appledore, August 6, 1956 (W. L. Rudland). Greatstone, one, August 1960 (W. L. Rudland).

16. Folkestone Town, ♂ in m.v. trap, August 10, 1958 (A. M. Morley).

VARIATION.—D. G. Marsh has an ab. he took at Westwell, June 1, 1957, having forewings with almost no chocolate in median area which were thus nearly unicolorous greyish (C.-H.).

FIRST RECORD, 1828: Stephens, *Haust.*, 2: 60.

#### [*Charadra deridens* Guen.: Marbled Tuffet.]

Suspected importation.

1. "Mr. C. H. Hards, of Plumstead, has taken, in the M.V. light trap in his garden, a specimen of *Charadra deridens* Guen. This Noctuid is an American species and is obviously an accidental introduction. Mr. Hards has generously given the specimen to 'Tring' for the Rothschild-Cockayne-Kettlewell collection of British Lepidoptera" (Editor, *Ent. Gaz.*, 3: 183).

The specimen, a ♂, is dated May 24, 1952. Hards told me he imported insects from the U.S.A. (C.-H.).]

**Episema caeruleocephala L.: Figure of Eight.**

Native. Woods, hedges, bushy places, gardens; on sloe, damson, hawthorn, apple.

Note: The records suggest that *caeruleocephala* has been generally less frequent during the present century, at least in W. Kent (v.-c. 16). The decline is especially marked in the north-west, where in div. 1, though formerly common, the only instance on record of its occurrence there during the past fifty or more years, is of one in 1952.

1. Lewisham, 1845 (Stainton, *Zoologist*, 1229). Lee, a larva on hawthorn, June 7, 1862 (Fenn, *Diary*). Sydenham (Sellon, *Ent. Rec.*, 2: 164). S.-E. London, 1895, "save for an occasional specimen on the street lamps, it is rarely seen now. It used to swarm in the larva state" (Fenn, *Ent. Rec.*, 6: 230). Lee; Lewisham (West, *Ent. Rec.*, 18: 200). Bexley district (L. W. Newman, in *Wool. Surv.* (1909)). Paul's Cray (G. B. Browne, in *Wool. Surv.* (1909)). Farnborough district, common (H. Alderson, in *Wool. Surv.* (1909)). Eltham, common formerly at light (A. H. Jones, in *Wool. Surv.* (1909)). Bexley (L. T. Ford). Abbey Wood, 1952 (J. Green, teste Showler, *Ent. Rec.*, 68: 166).
2. Gravesend; Faversham; on sloe generally (H. C. Huggins).
3. Broad Oak, larva occasionally, on hawthorn, 1934-44, a ♂ imago at light, September 30, 1937 (C.-H.). Blean Woods, larvae not uncommon (A. J. L. Bowes) Whitstable (P. F. Harris). Canterbury\*, once (J. A. Parry). Herne Bay (D. G. Marsh).
4. Minster\*, one bred 1906, one bred 1907; in J. P. Barrett coll. (C.-H.).
5. Chevening, larva on apple, reared October 23, 1912; larvae, June 6, reared October 6, 9, 16, 1913; from larvae, imagines reared August 31, 1917, September 14, 1918 (Gillett, *Diary*). Westerham (R. C. Edwards).
6. Gravesend, moth at street lamps (H. C. Huggins); October 22, 1910, October 4, 24, 1913, October 16, 1924 (F. T. Grant). Otford, one in m.v. trap, October 25, 1955 (W. B. L. Manley).
- 6a. [Chattenden], "very abundant as larva" (c. 1855) (Crozier, *Nat. Hist. Rev.*, 5: 128). Chattenden, one larva, July 12, 1884, five larvae on hawthorn, June 12, 1886 (Fenn, *Diary*). Rochester district\*, larvae on hawthorn (Chaney (1884-87)).
7. Faversham (H. C. Huggins). Westwell, November 2, 1948; a few yearly since then but more larvae than moths (E. Scott).
8. Folkestone\*, at light (Knaggs (1870)). Deal Town\*, at light, October 18-21, 1884 (Fenn, *Diary*). Ewell Minnis, larva, June 26, 1932 (J. H. B. Lowe). Stowting; Brook; Wye (C. A. W. Duffield). Barham; Dover (E. & Y. (1949)).
9. Near Pouces, larva on sloe, June 14, pupated July 7, ♂ emerged October 14, 1915; Hengrove, Margate, larva on sloe, June 1, pupated June 17, emerged October 9, 1920 (H. G. Gomm, *Diary*).
10. Brasted (R. M. Prideaux).
11. Wateringbury, larvae, and at light (Goodwin MS.); (V.C.H. (1908)). Ulcombe, "Mr. A. O. Walker informs me that at Ulcombe, near Maidstone, this insect is very common on sloe and damson" (Theobald, *Jnl. S.E. Agricultural Coll. Wye*, 1910 (19), 96). Edenbridge, larva, 1929, one at light, 1930 (F. D. Greenwood). Tonbridge, larvae (H. E. Hammond). Sevenoaks

Weald, larva, June 3, 1959, imagines at m.v.l. trap, September 28, October 1-3, 11, November 2, 1959 (E. A. Sadler). Hoads Wood (P. Cue).

12. Ham Street (G. V. Bull); 1959 (de Worms, *Entomologist*, 93: 199). Willesborough, October 11, 1953 (1), October 10, 1955 (1), October 4-21, 1956 (3); Wye, October 5-20, 1953 (5), September 26-October 29, 1954 (18), October 24-November 4, 1955 (3), October 13-22, 1956 (5) (W. L. Rudland). Ashford, October 14, 27, 1954 (P. Cue). West Ashford, imagines and larvae, 1959-60 (M. Singleton). Willesborough, October 9-25, 1963 (2), October 22-November 1, 1964 (4) (W. L. Rudland).

13. Tunbridge Wells, larvae often seen on sloe bushes (Knipe (1916)); "was formerly most abundant as larvae on sloe and hawthorn, but of late seems to have completely disappeared" (Given (1946)). Goudhurst (W. V. D. Bolt, *pers. comm.*, 1961).

14. Sandhurst (Bull, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1940-41: 14). Tenterden, 1960 (C. G. Orpin).

15. Dungeness (Morley (1931)); one, October 30, 1964 (R. E. Scott).

16. Hvthe, 1947 (A. M. Swain). Folkestone (A. M. Morley). Sandgate, one, 1958 (N. Reay-Jones).

FIRST RECORD, 1846: Lewisham (Stainton, *Zoologist*, 1229).

#### PLUSIINAE

##### **Polychrisia moneta** F.: Golden Plusia.

Resident. Gardens; on monkshood, garden delphinium. Recorded from all divisions, except 15 (probably occurs). Frequent, and for many years now, apparently fairly generally distributed in suitable situations throughout the county.

The moth is stated to have been taken in this country as long ago as 1857. Thus, King (*Ent. Rec.*, 4: 228) writes: "I captured two specimens of *moneta* in Kent as far back as 1857, which until I saw Mr. Flood's capture, remained amongst unnamed insects". Mera (*Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1903: 18) may have been referring to this when he said a friend had taken it in the "fifties". One wonders though, how someone on finding such a very distinct and beautiful species in Britain could it seems have been so indifferent as to its identity. However, it was not until 1890 that the onset of the historic spread of *moneta* in this country took place, and from its capture that year at Dover on June 25, was first recognised as British (see *First Record*). On July 1 the same year, it was also noted at High Woods, Tunbridge Wells (div. 13) (Beeching, *Ent. Rec.*, 1: 185); and again at Dover on September 20 (Barrett, *Ent. mon. Mag.*, 27: 121). Thus, by 1890, it was already known from both Kent vice-counties.

In 1891, it was again found at Dover (Barrett, *Br. Lep.*, 6: 106). In 1892, it was noticed at Dartford [div. 1] (Fenn, *Ent. Rec.*, 3: 285), and there are records of its having been taken that year at Folkestone [div. 16] (Tutt, *Ent. Rec.*, 4: 76); Frinstead (div. 7) (Mathew, *Proc. ent. Soc. Lond.*, 1892: xxv); and again in the Tunbridge Wells area (Phipps, *Ent. Rec.*, 3: 196). In 1893, it was recorded from Strood [div. 2] (King, *Ent. Rec.*, 4: 228); Tonbridge (Babington, *Ent. mon. Mag.*, 30: 88); and in 1894, from Dover, Tonbridge, and Tunbridge Wells (Tutt, *Ent. Rec.*, 5: 217). In 1895, from a larva found at Bromley (div. 1) on monkshood, there emerged an imago on June 30 (Hill, *Ent. Rec.*, 6: 289); in 1896, singletons were observed at Ashford; Wye (Theobald, *Entomologist*, 29: 288); it occurred at Folke-

stone (Bowles, *Ent. Rec.*, 8: 185); was again recorded from Dover (Webb, *Ent. Rec.*, 9: 23), and Bromley (Hill, *Entomologist*, 29: 263); and in 1897, in addition to some of the localities already mentioned, was seen at Rochester (Pye, *Ent. Rec.*, 9: 266); and at Farnborough, where it was stated as new to that district (Alderson, *Ent. Rec.*, 33: 280).

By the end of the century, *moneta* appears to have established itself in most parts of Kent; since when there seems to have been no evidence of any recession or very marked increase within the county, and at the present time, the species is likely to be found wherever there are gardens containing monkshood or delphinium.

The imago comes to light in small numbers, usually as odd examples, and is occasionally noted at *Kentranthus* flowers; but the species is much more readily obtainable as a larva, owing to the ease with which it is detected in that stage. The moth is usually out from towards the end of June to early August, and there is a partial second brood in September, though apparently not every year. In 1952, however, A. Heselden first noted the moth at Bexley on June 13, and in the same year at Welling on August 23, presumably precocious members of a first and second generation respectively. At West Wickham, in 1963, R. F. Birchenough took an imago on a fence in fine condition on November 1, a remarkably late date and possibly representing a third emergence.

There are a great many records of the finding of the larva, both on delphinium and monkshood (*Aconitum napellus*); and the former which I grow at West Wickham, annually supports its quota (C.-H.). Huggins (*Ent. Rec.*, 65: 256-257) states that it prefers monkshood, adding incidentally that this was much more frequent a plant in gardens at the beginning of the century than nowadays, and before delphiniums became so common. Newman (*Ent. Rec.*, 13: 376) records the capture of about 150 larvae and pupae at Bexley in 1901, but does not mention the species of plant(s) upon which they were found.

VARIATION.—Huggins (*Entomologist*, 85: 185) gave the name *intersecta* to a ♂ ab. which he bred from Springhead (div. 6), July 3, 1905.

FIRST (PUBLISHED) RECORD, 1890: At meeting on October 1, 1890, "It was stated that the first specimen of this species captured in England had been taken at Dover last June . . ." (Barrett, *Proc. ent. Soc. Lond.*, 1890: xxxii). "The first specimen noticed was taken hovering over a Delphinium blossom in a garden at Dover by a schoolboy, on the evening of June 25th. It was brought to Mr. Sydney Webb, in whose collection it now is" (Barrett, *Ent. mon. Mag.*, 26: 255).

#### **Plusia chrysitis L.: Burnished Brass.**

Resident, perhaps native. Woods, marshes, weedy banks, ditches, etc.; on *Urtica dioica*. In all divisions; few records for 15. "Generally common" (V.C.H. (1908)).

There are two generations, the moth appearing in June and July, and again but less plentifully, in August and September, sometimes continuing into October.

A. R. Kidner (*Diary*) noted young larvae as fairly plentiful at Sidcup, September 13, 1932; and severally at Farningham, October 2, 1930, October 2, 1936. Fenn (*Diary*) noted a few on nettles (*U. dioica*), Pauls Cray Common, September 25, 1875; also a moth at Lee, September 8, 1861, "drying its wings on a nettle".

15. Dungeness, 1957, by T. G. Edwards and S. Wakely (A. M. Morley);

one at floodlights of new lighthouse, July 5, 1962 (R. E. Scott).

VARIATION.—My records show that at Broad Oak (div. 3), about half are referable to ab. *juncta* Tutt, the remainder being typical *chrysitis* L. (C.-H.).

FIRST RECORD, 1861: Lewisham (Fenn, *Diary*, 12.vi.1861).

**P. orichalcea** F. (*aurifera* Hübner)<sup>1</sup>: Slender Burnished Brass.

Immigrant. There are two records, only one of which, however, definitely refers to Kent.

Stephens (*Haust.*, 3: 105) states that "two examples only have yet been observed by me; one was taken near Dover by the late Rev. J. Lyon, and is now in the British Museum<sup>2</sup>; [the other was found, I believe, in the vicinity of the metropolis . . . having been rescued from oblivion by Mr. Ingpen".]

FIRST RECORD, 1830: Near Dover (Stephens, *Haust.*, 3: 105).

**P. chryson** Esp. (*orichalcea* auct. nec F.): Scarce Burnished Brass.

Resident, perhaps extinct. Chalk undercliff, marshy places; [on *Eupatorium cannabinum*]. No record of occurrence since 1902.

2. Crayford (see *First Record*). "Specimens have been found near Crayford in Kent" (Stephens, *Haust.*, 3: 106); is possibly based on the latter.

4. There are many references to its occurrence in the Deal area, but the data are usually of an extremely meagre nature. Most records give "Deal", some more specifically "Kingsdown" and "St. Margaret's Bay", though less precise is "near Dover". Probably all refer to two or possibly three localities in this division, one of which, "the stretch of beach just beyond the coastguard station at Kingsdown . . . a rough slope entirely covered with bushes and herbage", was according to Sydney Webb ( teste Fenn, *Diary*), the spot where Harding got his *chryson*. Harding (*Entomologist*, 16: 131) tells us this place was completely destroyed by the sea sometime before 1883. There are records, however, that *chryson* was found in the area some 30 and 40 years later, and that it was actually reared in 1902, but the details are tantalisingly brief and we know hardly anything of the circumstances attending these post 1890 captures.

1851-1860.—"First taken at Deal by Mr. Harding" (V.C.H. (1908)). At meeting of Society of British Entomologists, on August 5, 1851, the species was exhibited "from the coast near Dover"; on September 5, 1853, Mr. Dalman exhibited a pair taken by Mr. Harding at Kingsdown; and on September 6, 1854, Mr. Harding exhibited it from "the coast of Kent" (*Zoologist*, 3240, 4071, 4484). 1855, "has again been taken on the coast, near Deal, by Mr. Harding" (Stainton, *Ent. Ann.*, 1856: 47). 1856, July, "Since my last I have taken the pupa and bred *Plusia orichalcea*". (Harding, *Ent. week. Int.*, 1: 132). 1858 (Harding, *Ent. week. Int.*, 4: 141; Standish, *Ent. week. Int.*, 4: 146). 1859, between July 3 and 20 (Harding, *Ent. week. Int.*, 6: 140); taken by J. Thorn at Deal in 1859 (Fenn, *Diary*).

<sup>1</sup>During the past 25 years the moth has been taken in Devon, 1943; Cork, 1946; Scilly Is., 1956; Norfolk, 1959; Cornwall, 1956, 1960, 1961; Isle of Wight, 1961, 1962; Galway, 1964 (cf. *Entomologist*, 76: 259, 79: 286; South, *Moths Br. Is.* (1961), 1: 233; *Ent. Gaz.*, 9: 124; *Ent. Rec.*, 73: 244, 75: 65; *Proc. S. Lond. ent. nat. Hist. Soc.*, 1961: 41, 1964: 18).

<sup>2</sup>I have been unable to locate this specimen. and D. S. Fletcher tells me he can find no trace of it in BMNH (C.-H.).

1860 (Harding, *Ent. week. Int.*, **8**: 155). Note: Harding (*Entomologist*, **16**: 132) recalls, "I may have taken in all some eighteen or twenty of *P. orichalcea*, seven of which were taken in one night".

Folkestone district\*.—The species is included in the 1859 edition of *English's Guide to Folkestone*, edited by S. J. Mackie (possibly it appeared in earlier editions none of which has been traced), but it is considered probable that the basis for this are Harding's records *antea* (C.-H.).

1891-1902.—Tutt (1896, *Br. Moths*, 216) states that it "used to occur near St. Margaret's Bay; but although the beds of hemp agrimony there are still very extensive, no captures have been made in that locality for a long time". In an interleaved copy of Edward Newman's *Br. Moths* belonging to C. G. Bruce, and containing MS. notes by G. H. Hickling and H. E. Page, is the following entry under this species: "Jy & Aug 1891 & 2 Deal" (C.-H.). [1896] At meeting of Nonpareil Entomological and Natural History Society, on May 6 1897, "Mr. Samson exhibited *Plusia orichalcea* from St. Margaret's Bay" (Newbury, *Entomologist*, **30**: 180). In J. Platt Barrett coll., are four specimens, labelled: bred Deal, August 6, 7, 10, 14, 1902 (C.-H.).

FIRST RECORD, 1819: "Gardens, Crayford" (Samouelle, *Entomologist's Useful Compendium*, 403).

#### **P. festucae** L.: Gold Spot.

Native. Marshes, wet places; foodplant unrecorded. Regularly double-brooded; moths of the second generation usually appreciably more numerous than those of the first<sup>1</sup>.

1. Eltham, rather scarce (A. H. Jones, in *Wool. Surv.* (1909)). Chislehurst, one bred 1904, from a pupa found rolled in a leaf; one, worn, taken in the garden, August 26, 1945 (S. F. P. Blyth). Farnborough (W. A. Cope). Bexley, one at light, September 7, 1946 (B. K. West); one at light, 1951 (L. T. Ford). West Wickham, one, 1950, one, 1953 (E. J. Trundell).

2. Deptford (see First Record). Near Greenwich; Woolwich (Stephens, *Haust.*, **3**: 107). Greenwich Marshes (A. H. Jones, teste Fenn, *Diary*, 1863). Abbey Wood Marshes (C. Fenn, in *Wool. Surv.* (1909)), may refer to the preceding (C.-H.). Luddenham Marshes (H. C. Huggins). Aylesford (Davis, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1955: 23).

3. Eddington, one, c. 1878 (S. Wacher MS.). Herne Bay, one (D. G. Marsh).

4. Near Deal, larva, July 20, 1896, imago reared (Williamson, *Ent. Rec.*, **9**: 118). Minster, three, August 26, 1920 (H. G. Gomm, *Diary*). Sandwich, August 30, September 12, 14, 1936; Reculver, September 19, 1935, August 12, 1938 (A. J. L. Bowes). Westbere, about twenty at dusk at flowers of water mint, August 27-29, 1938; Ham Fen, one, June 17, one, August 6, 1950 (C.-H.). Ickham, numerous, 1954-59 (D. G. Marsh). Worth, three, August 24-25, 1961; June 10, 1962 (T. W. Harman).

5. Chevening, August 25, 1917 (Gillett, *Diary*).

6. Pinden, one, 1952 (E. J. Hare). Otford, several, 1955-56 (W. B. L. Manley).

7. Westwell, August 12 (1), 20 (1), 1953 (Scott, *Ent. Gaz.*, **5**: 123). Challock (Scott (1964)).

8. Shepherdswell, one, August 23, 1947 (E. & Y. (1949)). Dover, several 1954 (B. O. C. Gardiner).

9. Sevenscore, one, September 12, 1928; Ramsgate, one, September 1, 1932 (J. W. C. Hunt).

10. Sevenoaks, at light, 1946 (F. D. Greenwood).
11. Edenbridge, 1933, at lavender (F. D. Greenwood). Hoads Wood, September 15, 1953 (P. Cue).
12. Canterbury City, a few at street lamps, c. 1946 (J. A. Parry). Chatham (P. B. Wacher). Brook, one at campion flowers (Scott (1950)); four, end of August 1952 (C. A. W. Duffield, teste E. Scott). Wye, June 11 (1), August 6-20 (3), 1953; June 23-29 (2), 1954; July 13 (1), August 26-September 21 (3), 1955; June 25 (1), 1956; Willesborough, June 26-28 (2), August 30 (1), 1954; August 20-25 (7), 1955; September 10 (1), 1956; August 6 (1), 30 (1), 1957 (W. L. Rudland). Ham Street, one, August 31, 1953 (W. L. Rudland); one at light, August 31, 1953 (P. Cue); one at m.v.l., August 19, 1955 (W. E. Busbridge, *Diary*); September 3, 1960, in the village (de Worms, *Entomologist*, 94: 163). Ruckinge, one, August 21, 1959 (R. G. Chatelain). Willesborough, one in m.v. trap, 1961 (D. Youngs); one in m.v. trap, June 20, 1962 (M. Singleton).
13. Tunbridge Wells, one on a shop window, 1957 (L. R. Tesch, *per* C. A. Stace). Goudhurst, about six at light annually (W. V. D. Bolt, *pers. comm.*, 1961).
14. Sandhurst at valerian (G. V. Bull). Tenterden, wings of specimen in cobweb, October 1961 (C. G. Orpin).
15. Romney Marsh, two at ragwort, August 28, 1932 (de Worms, *Entomologist*, 66: 106); one, taken September 1939 (S. F. P. Blyth). Dungeness, one by Hare and Davies, August 19, 1935 (A. J. L. Bowes); two, August 5, 1959 (R. G. Chatelain); June 19 (1), August 17 (1), 1964 (R. E. Scott); August 27, 1964 (T. W. Harman).
16. Hythe\* and Folkestone\*, five, July 1872 (H. E. Page and G. H. Hickling MS.). Folkestone\* (Ulliyett (1880)); one on gaslamp, September 8, 1923 (Kettlewell, *Ent. Rec.*, 36: 156). Folkestone Town, 1952 (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1952-53: 42); ♂, May 26, 1953 (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1953-54: 38); two, August 20, 1958 (A. M. Morley). Sandgate, two, 1961 (N. Reay-Jones).

FIRST RECORD, 1793: ". . . marshes in the vicinity of Deptford" (Donovan, *Nat. Hist. Br. Ins.*, 2: 25).

[(*P. chalcites* Esp. (*eriosoma* Doubl.)): Golden Twin-spot.

This was formerly considered synonymous with *P. acuta* Walk. In 1927, Meyrick (*Revised Handbook Br. Lep.*, 184) omits mention of the latter, but retains under *chalcites* Esp., his original citation of 1895 (*Handbook Br. Lep.*, 158): "Kent, a rare immigrant only", and which was undoubtedly based on the Tunbridge Wells specimen of *P. acuta* (q.v.)].

#### **P. iota** L.: Plain Golden Y.

Native. Woods, gardens, waste places; foodplant unrecorded. Frequently found in same localities as *P. pulchrina* Haw., but less partial to woodland, more numerous, and apparently more generally distributed than that species.

1. Charlton, one at light, June 29, 1864 (Fenn, *Diary*). Brockley, several at light, c. 1888 (Turner, *Ent. Rec.*, 1: 349). Eltham, one, August 22, 1879; Shooters Hill, June 27, 1889 (Fenn, *Diary*). Bexley; Farnborough; Kidbrooke; Lee; Lewisham; Burnt Ash (*Wool. Surv.* (1909)). West Wickham

<sup>1</sup>This is contrary to the statements of Barrett (1900, *Br. Lep.*), South (1961, *Moths Br. Is.*), and others.

(V.C.H. (1908)); common at valerian (Kershaw, *Entomologist*, **51**: 66); 1951 (E. J. Trundell); two, June-July 1963 (C.-H.). Chislehurst, two, July 1, 1904 (S. F. P. Blyth). Sidcup, a larva, February 29, 1920; one at light, July 27, 1927 (A. R. Kidner, *Diary*). Orpington, 1953 (L. W. Siggs). St. Mary Cray (R. G. Chatelain). Lee, one, 1960 (C. G. Bruce). Bromley, 1963 (4), 1964 (3), 1965 (5) (D. R. M. Long).

3. Herne Bay, occasionally (D. G. Marsh). Broad Oak, three at light, June 16-19, 1952 (C.-H.).

4. Deal\* (T. Sorrell, teste Fenn, *Diary*). Ickham, many, 1954-59 (D. G. Marsh).

5. Chevening, one, July 1913; July 5, 1917 (Gillett, *Diary*). Halstead, July 15, 1925 (Frampton, *Entomologist*, **59**: 173). Chelsfield, 1949 (A. M. Swain). Westerham, frequent, and numerous in 1959; particularly numerous at light in 1964 with about 100 in the m.v. trap on June 30 (R. C. Edwards).

6. Greenhithe\* (Farn MS.). Gravesend, scarce (H. C. Huggins). Pinden (E. J. Hare).

6a. Darenth Wood (see *First Record*); (Curtis, *Br. Ent.*, 731). Rochester\* [Cobham], moderately abundant (1897) (Pye, *Ent. Rec.*, **9**: 266).

7. Wigmore Wood, not very common (Chaney (1884-87)). Boxley, 1953 (A. H. Harbottle). Westwell (Scott (1936)).

8. Elham, one, June 14, 1925, in Elham Park Wood; one, August 3, 1925, one at acetylene light, July 4, 1926 (W. E. Busbridge, *Diary*). Dover (E. & Y. (1949)); common, 1954 (B. O. C. Gardiner). Whitfield, numerous, 1953 (Wakely, *Ent. Rec.*, **66**: 109; idem, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1952-53: 26). Bettleshanger, July 6, 1957 (R. F. Bretherton). Brook (C. A. W. Duffield); July 3, 1951 (H. King). Barham (E. & Y. (1949)). Stowting (C. A. W. Duffield). Wye (Scott (1936)).

9. Birchington, one, 1919; Kingsgate, two on knapweed, July 17, 1920 (H. G. Gomm coll.).

10. Brasted (R. M. Prideaux).

11. Tonbridge, one (Raynor, *Entomologist*, **6**: 79). Tonbridge district, 1911 (Rattray, *Entomologist*, **45**: 80). Wateringbury (V.C.H. (1908)); many in E. Goodwin coll. (C.-H.). Yalding (V.C.H. (1908)). Shipborne, one, 1910 (P. A. & D. J. A. Buxton coll.). Near Maidstone, 1899 (Gandy, *Entomologist*, **32**: 279). Maidstone, woods behind Vintners Park, not uncommon (F. T. Grant). Aylesford, c. 1953 (G. A. N. Davis). Sevenoaks Weald, two, June 18-21, 1959; nine, June 15-July 19, 1960 (E. A. Sadler).

12. Chartham, five, 1949, one, 1951 (P. B. Wacher). Ham Street.—Birchett Wood, one, July 1951 (C.-H.); June 24, 1953, July 1955, June 30, 1956 (W. L. Rudland). Ashford Town, c. 1953 (P. Cue). Willesborough, three, June 20-July 15, 1954, nine, July 6-30, 1955, eighteen, July 8-27, 1956, thirty-three, June 18-July 18, 1957, ten, June 29-July 20, 1958, nineteen, July 2-28, 1963, twenty-six, June 17-July 31, 1964 (W. L. Rudland); fairly common, 1961 (M. Enfield). Wye, five, June 23-July 24, 1953, twelve, June 23-August 5, 1954, twelve, June 12-August 9, 1955, fifteen, July 6-August 9, 1956 (W. L. Rudland). West Ashford, 1958 (M. Enfield).

13. Tunbridge Wells, 1891 (Beeching, *Ent. Rec.*, **2**: 229); (E. D. Morgan). Goudhurst, common, including ab. *percontationis* Tr. (W. V. D. Bolt).

14. Tenterden (Stainton, *Man.*). Sandhurst, at valerian (G. V. Bull).

15. Dymchurch, one, 1952 (Wakely, *Ent. Rec.*, **65**: 44).

16. Folkestone Town, one ab. *percontationis* Tr., 1952 (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1952-53: 42).

VARIATION.—*Ab. percontationis* Tr. appears to be less numerous than the type, but is nonetheless of fairly frequent occurrence; I have one taken by G. V. Bull at Sandhurst, July 7, 1937 (C.-H.).

FIRST RECORD, 1830: "Found in the lanes near Darenth-wood" (Stephens. *Haust.*, 3: 102).

**P. pulchrina** Haw.: Beautiful Golden Y.

Native. Woods, copses; foodplant unknown.

1. Priestlands Wood, Sidcup, ♀, 1896 (G. H. Hickling & H. E. Page MS.). Sidcup, July 1903 (Clarke, *Entomologist*, 36: 291); one, June 17, 1911 (A. R. Kidner). Chislehurst, two, June 20, 1905, one, June 26, 1906, two, June 1908, one, June 21, 1909, two, June 9, 1910 (S. F. P. Blyth). Bexley (L. W. Newman, in *Wool. Surv.* (1909)). Orpington; Farnborough (W. Barnes, in *Wool. Surv.* (1909)). West Wickham, common at valerian, 1917 (Kershaw. *Entomologist*, 51: 66); one ab. *percontatrix* Auriv., in Well Wood, June 10, 1949 (C.-H.); 1952 (de Worms, *Lond. Nat.*, 1955: 68). Abbey Wood, 1952 (A. J. Showler). Orpington (R. G. Chatelain). Lee, odd specimens (C. G. Bruce). Bromley, one, July 13, 1963, one, June 19, one, July 7, 1965 (D. R. M. Long).
2. Plumstead Marshes (de Worms, *loc. cit.*).
3. Herne Bay (D. G. Marsh).
4. Ickham, many, 1954-59 (D. G. Marsh).
5. Chevening, June 1, 1912, June 8, 1916 (Gillett, *Diary*). Halstead (R. E. Frampton, teste S. Wakely). Westerham, frequent, numerous in 1959 (R. C. Edwards).
6. Pinden, one, 1951 (E. J. Hare). Eynsford, June 19, 1960 (R. G. Chatelain).
- 6a. Darenth Wood (Stephens, *Haust.*, 3: 101). Rochester\* [Cobham]. moderately abundant (1897) (Pye, *Ent. Rec.*, 9: 266). Chattenden Roughs (Chaney (1884-87)). Dartford\* (V.C.H. (1908)).
7. Wigmore Wood (Chaney, *loc. cit.*). Westwell, June 4, 1952; 1953 (E. Scott). Challock (Scott (1964)).
8. Dover, one at electric light, June 19, 1895 (H. D. Stockwell, *Diary*). Folkestone\* (Ulliyett (1880)). Stowting (C. A. W. Duffield). Wye (Scott (1936)). Brook (C. A. W. Duffield); 1951 (H. King); 1961 (de Worms. *Entomologist*, 95: 101). Bettleshanger, July 6, 1957 (R. F. Bretherton).
10. Brasted (R. M. Prideaux). Sevenoaks, 1919 (Gillett, *Entomologist*. 53: 23); one, 1946, one, 1948 (F. D. Greenwood).
11. Yalding (V.C.H. (1908)). Wateringbury (V.C.H. (1908)); many in E. Goodwin coll. (C.-H.). Maidstone, woods behind Vintners Park, not uncommon (F. T. Grant). Tonbridge district (Rattray, *Entomologist*, 45: 80). Edenbridge, one, July 6, 1932, one, 1933 (F. D. Greenwood). Aylesford (G. A. N. Davis). Hoads Wood, c. 1953 (P. Cue); one, June 15, 1955 (W. L. Rudland). Maidstone, one, June 15, 1957 (E. Philp). Sevenoaks Weald, three, May 27, 28, June 18, 1959; two, June 17, 21, 1960 (E. A. Sadler).
12. Lenham, 1922 (H. C. Huggins). Ham Street—June 18, 1934 (A. J. L. Bowes); several worn at m.v.l., in Birchett Wood, including one ab. *percontatrix* Aur., June 21-27, 1952; one, June 29, 1956 (C.-H.); June 24, 1953, June 30, 1956 (W. L. Rudland); July 8, 1958 (de Worms, *Entomologist*, 92: 71); June 10, 1960 (R. G. Chatelain). Ashford Town, c. 1953 (P. Cue). Willesborough, July 20, 1954 (1), June 20-July 10, 1955 (2), June 11-25, 1956 (2), June 22, 1957 (1), June 21-28, 1958 (2), July 2-22, 1963 (2) (W. L.

Rudland); one, 1961 (M. Singleton). West Ashford, two, 1961 (M. Singleton). Wye, June 21 (3), July 10 (1), 1954, June 23 (3), July 12 (1), 1955. May 31, 1956 (1) (W. L. Rudland).

13. Tunbridge Wells, 1891 (Beeching, *Ent. Rec.*, 2: 229); (E. D. Morgan): occasional, 1956-59 (L. R. Tesch, *per* C. A. Stace). Goudhurst, common, including ab. *percontatrix* (W. V. D. Bolt).

14. Sandhurst, at valerian (G. V. Bull).

16. Shorncliffe, one, July 1902 (J. P. Barrett coll.). Folkestone, singletons at m.v.l., July 2, 1952, June 6, 1957, June 18, 1958 (A. M. Morley). Sandgate, one, 1961 (N. Reay-Jones).

VARIATION.—Ab. *percontatrix* Aurivillius, is of frequent occurrence but not so numerous as the type, at least not in my experience (C.-H.). Morley (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1959: 43) exhibited one, taken Folkestone, June 20, 1959, and described as "ab. *v-aureum* Hübn., a male of the dark northern form . . . and similar to some taken at Aviemore" (presumably *v-aureum* Guen. (C.-H.)).

FIRST RECORD, 1830: Stephens, *loc. cit.*

**P. ni** Hübn. (*brassicae* Ril.): Ni.

Immigrant.

1958: Westerham (div. 5), one taken by R. C. Edwards in m.v. trap on May 18, and exhibited (Edwards, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1958: 25). Ashford (div. 12), one taken at light by P. Cue in his garden, August 18 (French, *Entomologist*, 92: 175). [Bexley, 1952 (*Ent. Rec.*, 64: 146. *Entomologist*, 86: 51), was never satisfactorily confirmed (C.-H.)] [(Wye. 1955 (*Entomologist*, 89: 176), based on wrong determination, refers to *P. interrogationis* L. (q.v.) (C.-H.))]

FIRST (CONFIRMED) RECORD, 1958: Westerham (R. C. Edwards).

**P. confusa** Steph. (*gutta* Guen.): Dewick's Plusia.

Immigrant.

1954: Ashford Town (div. 12), one taken, October 4, at rest on a fence, by P. Cue, and exhibited (Cue, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 23, plt. 1, fig. 4; French, *Entomologist*, 88: 128, 89: 176. The latter reference gives the date 1955 in error (C.-H.)).

1955: Ickham (div. 4), ♀, taken August 20, at m.v.l., by P. B. Wacher (C.-H., *Ent. Rec.*, 68: 53).

FIRST RECORD, 1954: Ashford (P. Cue).

**P. gamma** L.: Silver Y.

Immigrant. Waste places, gardens, lucerne and clover fields, etc.; on *Senecio viscosus*, *Ballota nigra*, *Linaria vulgaris*, *Centaurea scabiosa*, *Medicago sativa*, *Chenopodium*, *Matricaria*, *Atriplex*, "clover, nettles, thistle", *Ononis arvensis*, hop. In all divisions, and doubtless present from time to time everywhere in the county; indeed, in some seasons perhaps the most generally distributed and abundant noctuid. "Generally abundant" (V.C.H. (1908)).

The moth is most partial to flowers, especially *Kentrantus*, lucerne, clover, Petunia, lavender; but is not often seen at sugar, and then only singly as a rule, though according to Fenn (*Ent. Rec.*, 5: 300) it was "very common at sugar" at Deal in 1894. It also occasionally comes to ivy bloom, F. T. Grant having noted it at this at Chalk, October 14, 1911.

There are records of the moth for Kent for every month from May to

December, with optimum numbers normally in September; it has also probably been noted very occasionally in March and April, but I have been unable to trace any such occurrences. In 1951, it was seen at Sheerness on December 2 (Dannreuther, *Entomologist*, **84**: 89); and in 1956, W. L. Rudland observed it at light at Wye as late as December 6.

Despite the fact the moth is seen annually, it is doubtful whether the species can establish itself here for any length of time, though it is possible it may occasionally survive a winter. For instance, Danreuther (*Entomologist*, **84**: 89) says, that from a Blackheath pupa found in 1950 on April 15, an imago emerged May 9, thus indicating winter survival.

Occasionally the moth is seen in vast numbers. Thus, Adkin (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1890: 77) noted it at Deal, flying upwards in myriads from standing corn, so suggesting an initial migration; and Grant (*S. east. Nat.*, **42**: 99-106) records a similar phenomenon witnessed by L. W. Newman. One of the most remarkable invasions on record took place at Ickham on the night of September 18-19, 1961; on that occasion, D. G. Marsh estimated there were some 25,000-30,000 *gamma* in his garden in and about his m.v. trap (D. G. Marsh, *pers. comm.*; also, cf. Marsh, *Ent. Rec.*, **74**: 52).

I have taken the larva on *S. viscosa* at Dungeness, and on *C. scabiosa* on the rough chalky ground adjoining Ham Fen (C.-H.); it has been taken on *B. nigra* at Blackheath (A. A. Allen); on *L. vulgaris* at Dungeness (B. K. West); on *Chenopodium* at Strood (Ovenden, *Ent. Rec.*, **21**: 33); and on *O. arvensis* at Deal, from which the moth emerged August 28, 1875 (Fenn, *Diary*). H. G. Gomm (*Diary*) records finding eight cocoons at Ebbsfleet, September 14, 1920, "spun up between leaf tips of lucerne", from which he reared the moths in September-October of that year. The larva has also been noted on *Matricaria*, at Beckenham (Miller, *Ent. mon. Mag.*, **28**: 287); on *Atriplex*, in Sheppey (Cockayne, *Ent. Rec.*, **65**: 194); on "clover, nettles, thistle, etc." [at Maidstone] (Whitehead, *per* Porritt, *Ent. mon. Mag.*, **28**: 255); and on hop in the Tunbridge Wells district (C. A. Stace).

VARIATION.—Cockayne (*Ent. Rec.*, **65**: 193-195) dealt at length with a form which he bred from very dark larvae taken on Sheppey in 1899. These moths he described as "very small, pale, and silvery, with none of the rich purplish or brown colour of normal *gamma*"; and suggested they might represent a distinct subspecies.

Morley (*Ent. Rec.*, **65**: 24) recorded that of 200 *gamma* taken at Folkestone in 1952, the percentage of the "typical grey form", decreased from 92% in May and June, to 50% in July, to 35% in August, and to 27% in September; and the same recorder exhibited (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1946-47: 36) from Kent, a "pink form", a "dark form", and ab. *gammina* Stgr.

Of the ab. in which the tail to the Y is missing, Marsh (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 39) exhibited a ♀ and ♂, taken at Ickham, July 18, 29, 1961, respectively; and another of this ab. from Kent, was exhibited by Morley (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1946-47: 36).

FIRST RECORD, 1860: Deal (Harding, *Ent. week. Int.*, **9**: 27). But doubtless first noticed in the county long before.

**P. interrogationis** L. ssp. **cinerea** Warren: Scarce Silver Y.

Immigrant. Three examples only; all in 1955.

1955: July 29-30, Ham Street (div. 12), one taken at light by A. Richardson (Richardson, *Entomologist*, **88**: 262; idem, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1955: 39)†. August 14, Wye (div. 12), ♀ in m.v. trap, taken by W. L. Rudland (W. L. Rudland)†; this specimen was recorded in *Entomologist*, **89**: 176, as *P. ni* in error (C.-H.). August 17, Westwell, ♂ taken at light by P. Cue (Scott, *Bull. K. Fld. Cl.*, **1**: 10)†.

VARIATION.—Warren (in Seitz, *Pal. Noct.*, 346, fig. 64c) described as ab. *cinernea*, an European form having “the ground colour dull ashy grey with scarcely any dark markings, except the subterminal line, and no purplish suffusion, the silvery mark a somewhat triangular loop”. The Kentish immigrants conform to this; but it is a distinct subspecies, and not an ab. (C.-H.).

FIRST RECORD, 1955: Ham Street Woods (Richardson, *Entomologist*, **88**: 262).

**P. acuta** Walk.: Tunbridge Wells Gem.

Immigrant.

1870: Tunbridge Wells, one captured by H. P. Robinson, May 1870, which entered his drawing-room window attracted by the light (Moore, *Ent. mon. Mag.*, **7**: 138; Vaughan, *Proc. ent. Soc. Lond.*, 1870: xxxiii). The specimen is in R.C.K. (C.-H.).

FIRST RECORD, 1870: Tunbridge Wells (Robinson, teste Moore, *Ent. mon. Mag.*, **7**: 138).

**Unca trigemina** Wernb.: Dark Spectacle and **U. triplasia** L.: Light Spectacle.

The “Dark Spectacle” has for long been known by the scientific name “*triplasia* L.”, and indeed this is still the name used for it in Heslop. Yet, the correct name for it is *trigemina* Wernb., and *triplasia* L. should refer to the lighter species. The synonymy should therefore read:—

“Dark Spectacle”	“Light Spectacle”
<i>Unca trigemina</i> Werneberg, 1864	<i>Unca triplasia</i> L., 1758
<i>triplasia</i> auctt. nec L.	<i>tripartita</i> Hufn., 1766
	<i>urticae</i> Hübn., 1814-17

I have retained Heslop's nomenclature below for the sake of conformity and for no other reason.

**Unca triplasia** L.: Dark Spectacle.

Native. Gardens, marshes, waste places, etc.; on *Urtica dioica*, hop. “Rather rare on the coast of Kent” (Barrett, *Lep. Br. Isles*, **6**: 142).

Note: Except perhaps in the area bordering the metropolis, this is a very scarce moth in Kent. There appears to be no record of occurrence during the period 1926-48, and only odd ones since.

1. Lee, June 3, 24, 1861, one, June 30, 1862; both this and *tripartita* very common July 1, 1862, flying among nettles and low plants (Fenn, *Diary*); two, June 30, 1897 (B. A. Bower, *Ent. mon. Mag.*, **33**: 280); a few, 1900 (Carr, in Buckle and Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1901: 66). Lewisham, one, July 30, 1902, in E. Nottle coll. (C.-H.). Forest Hill, one, June 30, 1886 (Cansdale, *Ent. Rec.*, **2**: 69). Sydenham, several, 1874-91 (Sellon, *Ent. Rec.*, **2**: 164); one, 1905, in E. Nottle coll. (C.-H.). Burnt Ash, larvae on nettle (West, *Ent. Rec.*, **18**: 230). Westcombe Park; Farnborough; Southend; Catford; Hither Green; Eltham; Beckenham (*Wool. Surv.* (1909)). Erith; West Wickham (V.C.H. (1908)). Chislehurst, one, August 25, 1905, one, June 24 1908 (S. F. P. Blyth); one, June 21, 1924

(A. R. Kidner). Sidcup, August 8, 1909, June 26, 1910, August 29, 1911. July 1, 1913, June 22, 1914 (A. R. Kidner). Bromley Town, larvae on hop in garden, imagines bred (W. A. Cope). Bexley, one or two bred (L. T. Ford). Catford, one in garden at dusk, June 29, 1925 (W. E. Busbridge, *Diary*). Blackheath, one at m.v.l., June 5, one at m.v.l., August 11, both in 1959 (A. A. Allen).

2. Near Woolwich\*, 1862, at flowers, June 18, and again in August (J[ones], *Ent. week. Int.*, **10**: 187). Greenhithe\* (Farn MS.). Luddenham, odd ones, 1913-14 (H. C. Huggins). Dartford Marshes, one, June 8, 1952 (J. F. Burton).

3. Blean, nine, 1901-05, in J. Platt Barrett coll. (C.-H.).

4. Minster, two, 1919, one, 1920, in H. G. Gomm coll. (C.-H.).

5. Chelsfield, 1948 (A. M. Swain).

6. Springhead, odd ones, 1906-09 (H. C. Huggins). Pinden, one, August 28, 1951 (E. J. Hare).

6a. Darenth, bred 1861, larvae on nettle (Huckett, *Ent. week. Int.*, **10**: 52).

7. Wigmore Wood, one, August 25, 1862 (Chaney (1884-87)).

9. Margate, one, 1905, in H. G. Gomm coll. (C.-H.). Ramsgate [c. 1885] (W. A. Cope).

[11. Hoads Wood, 1953 (P. Cue, in Scott (1964)).]

12. Canterbury City, one, 1893 (S. Wacher MS.). Wye, one at m.v.l., August 26, 1955 (W. L. Rudland) (Scott (1964) refers). Ham Street—September, 1950, in Orlestone Woods, a nearly full-grown larva "beaten from broom or near-growing undergrowth," imago emerged 1951 (P. Cue, *in litt.*); July 17, 1956 (W. L. Rudland, in Scott (1964)); one at m.v.l., June 6, one, July 31, 1959, both in Orlestone Woods (B. F. Skinner). [(("Common in Ashford" (Scott (1936)), refers to *U. tripartita* Hufn.).]

13. Tunbridge Wells district, scarce (Knipe (1916)).

16. Folkestone Town, one, September 9, 1955 in m.v. trap (A. M. Morley).

FIRST RECORD, 1861: Darenth (Huckett, *Ent. week. Int.*, **10**: 52).

#### ***U. tripartita* Hufn. (*urticae* Hübn.): Light Spectacle.**

Native. Marshes, woods, gardens, waste places; on *Urtica dioica*, "male fern." The species appears to have become appreciably more numerous generally during the past fifteen years or so.

1. Recorded from many localities. More recent records are: Sidcup. 1937; Farningham Wood, few larvae, September 25, 1930, September 30, 1933, October 2, 1936, September 11, 1937 (A. R. Kidner). Petts Wood, three, 1947, one, 1950 (E. Evans). Bexley, odd ones in different years, two in 1950 (L. T. Ford); one, 1951, four, 1952 (A. Heselden). Hayes (E. J. Trundell). West Wickham, 1951, 1954 (C.-H.). Abbey Wood, 1952 (A. J. Showler). Welling, seven, August 5-23, 1952 (A. Heselden). Orpington. 1948, 1953 (L. W. Siggs). Blackheath, 1959, fairly rare at m.v.l. (A. A. Allen). St Mary Cray (R. G. Chatelain). Bromley, 1960 (11), 1961 (17), 1962 (13), 1963 (11), 1964 (30), 1965 (21) (D. R. M. Long).

2. Greenhithe\* (Farn MS.). Luddenham, one (H. C. Huggins). Dartford (B. K. West). Cliffe Marshes, August 21, 1960 (R. G. Chatelain).

3. Broad Oak, frequent at light and buddleia, 1935-56 (C.-H.). Herne Bay, August 18, 1938 (A. J. L. Bowes). Eddington, ♂, May 9, 1952 (D. G. Marsh, *Diary*).

4. Deal (Fenn, *Ent. Rec.*, **2**: 203). Minster, 1901, 1904-05 (J. P. Barrett coll.); larva on *U. dioica*, August 26, 1919, reared May 23, 1920 (H. G. Gomm, *Diary*). Sandwich, c. 1950; Ham Fen, c. 1950 (C.-H.).

5. Farnborough\* (W. Barnes, in *Wool Surv.* (1909)). Chevening, severally, 1912-14, 1917-18 (Gillett, *Diary*). Westerham (R. C. Edwards). Chelsfield, 1948, 1951 (A. M. Swain).

6. Gravesend, larva feeding on male fern in garden (F. T. Grant). Eynsford Downs, larva, July 4, 1934 (A. R. Kidner). Pinden (E. J. Hare). Fawkham, abundant at light, August 1952 (G. G. E. Scudder).

6a. Darenth (Huckett, *Ent. week. Int.*, **10**: 52). Knights Place, 1880 (Pye, *Rochester Nat.*, 1896: 51). Cobham, May 27, 1912 (F. T. Grant).

7. Wigmore Wood, one, 1861 (Chaney (1884-87)). Westwall, 1937, 1947, 1949 (Scott (1950)). Boxley (A. H. Harbottle).

8. Folkestone\* (Ullyett (1880)). Brook\*; stowting; Wye\* (C. A. W. Duffield). Barham (A. G. Maconochie). Dover; Shepherdswell; Deal\*; Bettleshanger (E. & Y. (1949)). Elham, one, July 10, 1926 (W. E. Busbridge, *Diary*). Brook, four, July 3, 1951 (H. King). Bettleshanger, July 6, 1957 (R. F. Bretherton).

9. Birchington, one, 1938 (C.-H.). St. Peters, at m.v.l., August 20 (1), September 19 (1), 1957 (W. D. Bowden).

10. Sevenoaks (W. E. Busbridge).

11. Wateringbury (V.C.H. (1908)). Edenbridge, at lavender and "valerian", 1929-30 (F. D. Greenwood). Hoads Wood, 1963 (P. Cue). Aylesford (G. A. N. Davis). Betersden, August 14-20, 1960 (C. R. Haxby and J. Briggs). Sevenoaks Weald, May 24, 27, June 3, 18, August 6, 21, 1959 (about 20); May 5-August 30, 1960 (10) (E. A. Sadler).

12. Canterbury City, at light, c. 1890 (S. Wacher MS.); larvae and imagines common, c. 1947 (J. A. Parry). Chartham, c. 1952 (P. B. Wacher). Ashford (P. Cue); common (1960) (M. Singleton) Wye, June 5-July 10, 1953 (7), May 19-July 11 (6), July 29-September 13 (8), 1954, May 25-July 20 (6), August 29 (1), 1955, June 21-July 27 (13), August 16 (1), 1956; Willesborough, May 10-July 18, 1954 (9), May 29-July 22 (22), August 4-September 3 (18), 1955, June 11-July 30 (21), August 10-25 (5), 1956, June 6-July 19 (17), July 28-August 31 (17), 1957, May 25-July 9 (14), August 21-22 (2), 1958, June 3-July 21 (29), 1963 (W. L. Rudland). Ham Street, August 15-20, 1960 (C. R. Haxby and J. Briggs).

13. Tunbridge Wells (E. D. Morgan); frequent, 1957-59 (L. R. Tesch, *fide* C. A. Stace); three, 1959 (C. A. Stace). Goudhurst, common (W. V. D. Bolt).

14. Sandhurst, at "valerian," and light (G. V. Bull). Hawkhurst, two, 1951 (B. G. Chatfield).

15. Dymchurch, five, 1952 (Wakely, *Ent. Rec.*, **65**: 44). Dungeness, June 13 (1), July 8-August 2 (4), 1962, July 2-August 3 (9), 1963, May 28-August 28 (15), 1964 (R. E. Scott); June 30-July 3, 1956 (R. F. Bretherton).

16. Folkestone (Morley, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 39).

VARIATIONS.—In my series I have one that is very much darker than the rest, and in which the whitish marking is virtually absent; it was taken by G. V. Bull, at Sandhurst, June 12, 1952 (C.-H.).

FIRST RECORD, 1857: West Wickham Wood (Tugwell, *Ent. week. Int.*, **3**: 11).

## OPHIDERINAE

**Catephia alchymista** Schiff.: Alchymist.

Suspected immigrant. Woods, etc.

1882: Near Dover, one taken by Mr Davies at sugar in a wood near Dover (div. 8), in (June) 1882 (Webb, *Entomologist*, **15**: 162; South, *Moths Br. Isles*, 1st edition, **2**: 78). The locality was Long Wood (sometimes called "Square Wood"), near Poulton (Webb (1891); Cardew, *Entomologist*, **41**: 311).

[1896: Folkestone.—"A somewhat worn *Catephia alchemysta* taken at Folkestone in 1896 fetched £2", at sale of G. Watkinson coll. (de Worms, *Entomologist*, **96**: 24).]

1919: Oaken Wood, Barming (div. 11), ♂ taken at sugar by C. H. Hards, June 17, 1919 (C. H. Hards, *in litt.*; Classey, *Ent. Gaz.*, **14**: 125).

1934: Kingsdown (div. 8), ♀ taken by H. Charles, August 12, 1934 (Charles, *Entomologist*, **67**: 230; *idem*, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1934-35: 47; Cockayne, *Entomologist*, **67**: 276). Dungeness (div. 15), ♂ taken on a post by F. H. Lees, September, 18, 1934 (Lees, *Ent. Rec.*, **48**: 17; Whitehouse, *Entomologist*, **68**: 38).

FIRST RECORD, 1882: Near Dover (Webb, *Entomologist*, **15**: 162).

**Acontia luctuosa** Schiff.: Four-spot.

Native. Chalky fields, waste places especially those in dry situations; foodplant unrecorded. Very local, but often fairly plentiful where it occurs.

1. Beckenham, a number flying in the sunshine, c. 1876 (Cockerell, *Entomologist*, **16**: 233). Lee, one at lighted window, July 8, 1887 (Fenn, *Ent. Rec.*, **2**: 90). Bexley (L. W. Newman, *in Wool Surv.* (1909)); severally, 1920-24, larva, June 6, 1920, larva, July 3, 1921 (A. R. Kidner); (L. T. Ford). Chislehurst, one, May 8, 1912 (S. F. P. Blyth). Sidcup, severally, 1912, 1924-27, 1929, 1931-32, 1934 (A. R. Kidner). Petts Wood (A. M. Swain). Plumstead; West Wickham (de Worms, *Lond. Nat.*, 1955: 64). Sundridge Park, frequent, 1946-48 (J. F. Burton). Joydens Wood, c. 1947 (D. F. Owen). Abbey Wood, at light, 1952 (A. J. Showler). Orpington, one, 1957 (R. G. Chatelain). Lee, July 16, 1952, July 7, 1957, June 9, 1962; all at m.v.l. (C. G. Bruce).

2. Abbey Wood Marshes, 1954 (M. Smith, *teste* A. J. Showler).

3. Ridgeway, August 11, 1933 (A. J. L. Bowes). Broad Oak, one in 1936, certainly a stray (C.-H.). Whitstable, several in South Street (P. F. Harris). Eddington near Herne Bay, odd ones at light, July 6 (♂), August 8 (♂), 1950, May 26, 1953 (♀) (D. G. Marsh).

4. Ickham, one, c. 1956 (D. G. Marsh).

5. Cudham (Frohawk, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1886: 43). Westerham (Prout, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1898: 8). Farnborough (W. Barnes, *in Wool Surv.* (1909)). Green Street Green (Hewitt, *in Wool Surv.* (1909)). Chevening, July 16, 1914 (Gillett, *Diary*). Halstead (S. Wakely).

6. Gravesend, "Abundant in chalky places. I captured 150 in the hope of finding Solaris among them" (Button, *Entomologist*, **4**: 129); abundant everywhere in suitable localities around Gravesend (*idem*, *Entomologist*, **5**: 222); common in one place (H. C. Huggins); one at street lamp, August 17, 1914; also noted at Highstead Rise, Downs Road, and on the Golf

Links (F. T. Grant). Between Gravesend and Rochester (Madeson, *Entomologist*, 5: 546). Cuxton (Chaney (1884-87)); 1893 (Tutt, *Ent. Rec.*, 4: 275). Greenhithe, said to be abundant on the railway bank (Fenn, *Diary*, 1874); abundant, c. 1865 (Webb, *Ent. Rec.*, 7: 15). Dartford\*, common in clover field, 1900 (Sherrin and E. D. Morgan). Otford, June 20 (9), 22, 1913, June 9, 1914 (Gillett, *Diary*). Shoreham (G. V. Bull); locally common (S. F. P. Blyth); c. 1947 (D. F. Owen); (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1899: 109); (*Entomologist*, 33: 47) Eynsford, c. 1947 (D. F. Owen). Fawkham; Pinden (E. J. Hare). Stone (G. Law).

6a. Near Darent Wood (Stephens, *Haust.*, 3: 113). Darent Wood, 1858 (Thomas, *Ent. week, Int.*, 4: 163); (L. T. Ford). Chattenden, taken 1895 and recorded by Battley at meeting of June 13, 1895, of North London nat. Hist. Soc. (*Ent. Rec.*, 7: 22).

7. Sittingbourne; Faversham (H. C. Huggins). Below Kings Wood close to Whitehill (Scott (1950)). Westwell, common (E. Scott).

8. Folkestone, clover fields, June and August, not scarce (Knaggs (1870)). Dover, 1883 (Coverdale, *Entomologist*, 16: 221). Deal Road, Dover, one, August 27, 1902 (H. D. Stockwell, *Diary*). Sole Street—"It still persists in a sloping field near Sole Street which was once sown with lucerne" (Scott (1936)); one in F. A. Small coll., "Sole Street, June 14, 1935" (C.-H.). Ewell Minnis, one, June 20, 1938 (E. & Y. (1949)). Bridge locally not uncommon in two or three fields, c. 1946 (R. Gorer) Barham Downs, frequent; Babs Hill, Canterbury, one (c. 1947) (J. A. Parry).

9. Margate, 1868 (Cox, *Entomologist*, 4: 130); very abundant (Cox, *Entomologist* 5: 167); June, 1905 (Barrett, *Entomologist*, 38: 214).亨grove, Margate, two, June 10, 1919; June 21, 1915 (2); two, June 14, 1924; Lydden, Margate, two flying over lucerne August 12, 1923; Sarre one, June 5, 1922; Seamark, Monkton, two, August 5, 1922; Brooks End, two in lucerne field, August 11, 1922 (H. G. Gomm, *Diary*). Margate, 1913 (Spiller, *Entomologist*, 46: 317); one, 1947 (E. H. Wild). Birchington, several in a field towards Brooks End, August, 1933 (C.-H.).

10. Sevenoaks\* (Carrington, *Entomologist*, 13: 78).

11. Yalding; Wateringbury (V.C.H. (1908)). Edenbridge, at light, 1933 (F. D. Greenwood). Aylesford (G. A. N. Davis).

12. Chartham (P. B. Wacher). Wye, one, 1954, one, 1956 (W. L. Rudland).

13. Ramslye, a few (Townsend, teste E. D. Morgan).

15. Dymchurch (Wakely, *Ent. Rec.*, 65: 44).

16. Bonnington, June 8, 1922 (G. V. Bull, *Diary*). Sandgate, three, 1961 (N. Reay-Jones).

VARIATION.—Vaughan (*Ent. mon. Mag.*, 4: 91) records that at Northfleet (div. 6) in early June, 1867, he captured a ♂ ab.; this became the holotype of ab. *reducta* Cockayne (Cockayne, *Entomologist*, 63: 164); which specimen is now in R.C.K. Also in R.C.K., is ab. *ochracea* Tutt, one, Eynsford.

FIRST RECORD, 1809: "Imago Jun. agris Cantii, at infrequens" (Haworth, *Lepidoptera Britannica*, 2: 264).

### **Tathorhynchus exsiccata** Led.: Levant Blackneck.

Immigrant.

11. Aylesford, ♂ taken in m.v. trap at Holt Wood, Aylesford, by G. A. N. Davis, in 1951 or 1952 (C.-H., *Ent. Gaz.*, 6: 68; Davis, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1955: 23). The specimen is now in my coll.,

having been presented to me by the captor (C.-H.).

FIRST (PUBLISHED) RECORD, 1955: Chalmers-Hunt, *Ent. Gaz.*, 6: 68.

**Lygephila pastinum** Treits.: Black-neck.

Resident, probably native. Marshes, meadows, chalk downs; on *Vicia cracca*. Rather uncertain in appearance; plentiful some years. Appears to have increased its range considerably during the past two decades.

1. Birch Wood (see *First Record*): (Curtis, *Br. Ent.*, 475); (Harding, *Entomologist*, 16: 128). Brockley, larva (1898) by P. Richards (Barrett, *Br. Lep.*, 5: 258). Farnborough\* (H. Alderson, in *Wool Surv.* (1909)). West Wickham, one at m.v.l., July 16, 1951 (R. F. Birchenough); one, July 28, 1952 (E. E. J. Trundell). Orpington, 1957 (R. G. Chatelain). Bromley, one, July 15, 1964 (D. R. M. Long).
3. Church Wood, Blean, one, July 5, 1953 (W. D. Bowden, *Diary*).
4. Westbere, one, June 30, 1946; Ham Fen, one, June 17, 1950; Ebbsfleet, one, June 16, 1952 (C.-H.). Sandwich, "swarming in my headlights," July 3, 1933; at sugar, July 13, 1936 (A. J. L. Bowes); one, worn, July 28, 1951 (C.-H.); "quite common," 1957 (B. K. West); plentiful at light and sugar, July 2, 1948; June 25, 1949 (D. G. Marsh, *Diary*). Ickham, occasionally, 1954-59 (D. G. Marsh). Between Sandwich golf course and Deal, six to eight specimens disturbed on each visit, July 18, 1956, July 10, 1958 (P. Cue).
5. Biggin Hill, seven, at rest on *V. cracca*, July 16, 1955 (C.-H.).
6. Halling, many, July 17, 1907; a few, June 24, 1908 (Ovenden, *Ent. Rec.*, 19: 213, 21: 32). Gravesend (V.C.H. (1908)). Southill by Birling Downs, three mid-day July 16, 1916 (F. T. Grant). Eynsford, one, August 7, 1959 (R. G. Chatelain).
- 6a. Darenth Wood (see *First Record*); (Curtis, *loc. cit.*). Chattenden, July 13, 1875, one, June 21, 1884 (Fenn, *Lep. Data MS.*); not uncommon (Chaney (1884-87)); one bred from larva, taken by Mr. Lewcock, May 25, 1889 (*Young Nat.*, 10: 173); odd ones, 1903-10 (H. C. Huggins); several, June 26, 1960, disturbed from amongst *V. cracca* (C.-H., *Proc. S. Lond. ent. nat. Hist. Soc.*, 1960: 85). Near Chattenden, 1905 (Ovenden, *Ent. Rec.*, 18: 17). Higham, larvae common, full-fed on *Vicia* (Porritt, *Entomologist*, 13: 163). Chattenden (*Entomologist*, 8: 293; *Ent. Rec.*, 4: 249).
7. Westwell, at valerian, June 24, 1945 (E. Scott); plentiful, 1946 (Bull, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1946-47: 168); common, 1962-63 (Scott (1964)). Walderslade, about 30, 1954 (G. A. N. Davis).
8. Folkestone Warren, scarce (Knaggs (1870)). Walmer, one, July 15, 1901, seven, July 5-7, ten, July 6-7, 1905 (H. D. Stockwell, *Diary*); 1906 (Shaw, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1907: 6). Cliffs towards St. Margaret's Bay, five at dusk (W. E. Busbridge). Kingsdown, on the cliffs (H. C. Huggins); July 1, 1925 (H. G. Gomm, *Diary*). St. Margaret's Bay (1947) (D. F. Owen). Deal, July 8, 1933, July 6, 1935 (J. H. B. Lowe). Dover Cliffs, July 9, 1932 (J. H. B. Lowe); "often common" (E. & Y. (1949)). Poulton, July 15, 1909 (P. A. Cardew, *Diary*). Haddington Wood, eleven at dusk, July 8, 1933, seven, July 9, 1934 (W. E. Busbridge, *Diary*). Elham, July 5 (6), 6 (2), 7 (1), 1934 (W. E. Busbridge, *Diary*). Bettleshanger, July 6, 1957 (R. F. Bretherton). Brook (C. A. W. Duffield); one, 1959 (M. Enfield). Folkestone, 1950 (A. M. Swain). St. Margaret's-at-Cliffe, five at rest on *V. cracca*, July 4, 1964 (C.-H., *Proc. S. Lond. ent. nat. Hist. Soc.*, 1964: 35). Wye, June 9, 1920, two on Crown Hill (H. G. Gomm, *Diary*); a colony (Scott (1936)); one, July 14, 1956 (W. L. Rudland); one, 1957 (M. Singleton). Near

Bourne Park, Bridge, one, c. 1939 (J. A. Parry). Chilham, two (J. W. C. Hunt).

10. Sevenoaks (Gates, *Trans. Cy. Lond. ent. nat. Hist. Soc.*, 1891: 21).
12. Ashford, one in garden, July 20, 1956 (P. Cue). Willesborough, one, July 9, 1957 (W. L. Rudland); one in m.v. trap, July 1961 (M. Singleton).
13. Tunbridge Wells district (Cox, *Entomologist*, 4 (62): ii).
14. Tenterden, one by beating a hedge near Knock Wood, July (Beale, *Zoologist*, 4130) (Stainton, *Man.*, probably refers).
15. Greatstone, one, July 4, 1950 (F. A. Swain). Dungeness, about forty flushed in daytime near the Open Pits, July 4, 1950 (F. A. Swain); one, July 31, 1956 (P. Cue); one, July 15, 1964 (R. E. Scott).
16. Folkestone, one, 1951 (Morley, *Ent. Rec.*, 64: 171); two or three annually since 1952 (A. M. Morley, *in litt.*, 5.xii.1958).

FIRST RECORD, 1830: "Taken occasionally in the fields in the neighbourhood of Birch and Darent Woods" (Stephens, *Haust.*, 3: 126).

[(**L. craccae** Schiff.: Scarce Black-neck.

Almost certainly an error of determination.

7. Chatham district, 1891 (Tyrer, *Ent. Rec.*, 2: 232); "? *T. pastinum*" (Tutt, *Ent. Rec.*, 2: 232).]

**Colobochyla salicalis** Schiff.: Lesser Belle.

Native. Woods; on aspen. Apparently now restricted to div. 12.

This is one of our country's most local moths, and though it may yet exist in the Haslemere-Petersfield area (Hampshire-Sussex border), Kent is now the only county in which it is known still to survive. Unfortunately, it is also one of those species that is in grave danger of extermination, not from the hands of the collector, but from the planting of conifers and consequent destruction of the habitat. The chosen habitat is a woodland clearing containing a high proportion of aspen, upon the youngest leaves and extreme shoots of which, especially those growing on suckers, the larva thrives.

1. Charlton (see *First Record*). Bexley, "I have specimens taken many years since in the neighbourhood of Bexley, in which vicinity I believe my friend Mr. Newman has captured it within these few years" (1834, Stephens, *Haust.*, 4: 19). West Wickham Wood, one taken [1851] (Douglas, *Zoologist*, 3183). Birch Wood, rare (Douglas, *Zoologist*, 3246). Shooters Hill Wood, one, June 11, 1859 (Jones, *Ent. week. Int.*, 6: 155). [Dulwich, one on a lamp, 1858 (Barrett, *Ent. mon. Mag.*, 3: 43; *idem*, *Br. Lep.*, 6: 285), is probably Surrey.]

10. Near Sevenoaks\*, taken for several years between 1862 and 1868 (Barrett, *Br. Lep.*, 6: 286).

12. Ham Street (Orlestone Woods).—♀ taken by C. G. M. de Worms, June 12, 1932 (de Worms, *Entomologist*, 65: 229). Since then, the moth has been noted regularly in these woods in varying numbers, but so far as I am aware only in the Orlestone group. Up to 1939, the numbers had been small, but in that year, according to A. J. L. Bowes, nearly 40 moths were taken. The majority of Ham Street *salicalis* had been noted at light until 1948, when, however, a fair number was walked up by day from among 1-2 year-old aspens growing in a clearing in Birchett Wood. In May 1951, the moth was abnormally plentiful; thus, G. Haggett (*in litt.*) says that, in Long Rope one morning during hot, still, sunny weather, he

was "continually flushing it for three hours over an area of 10-15 acres, but only plentifully from amongst the young, coarse, hairy aspen". Other records are:—June 30, July 3, 1935, June 15, 1939, June 18, 1950 (R. C. Edwards); May 26, 1954 (P. Cue); June 18, 1934 (2), "the second record"; June 30, 1935 (1), June 26, 1936 (4) (A. J. L. Bowes); June 18, 1936 (W. S. Gilles, *Diary*). I have noted it in Birchett, Burnt Oak, Faggs, Long Rope Woods, and my recorded dates are: June 11, July 2, 1938, June 6 (5 ♂♂, 1 ♀), 17, 1939, June 13, 1947, June 7, 8 (3 ♂♂, one of which very worn), 11, 1948, June 1, 1950, July 25, 1951 (very worn ♂), June 21, 1952, June 5, 6, 1954, June 8, 1957, June 12, 1960, July 15, 1962 (2 ♂♂, including one in good condition) (C.-H.). In 1956, de Worms (*Entomologist*, 89: 284) took a perfect specimen at m.v.l., on September 14, an abnormally late date, and probably representing a partial second emergence.

S. Wakely has repeatedly found the larva in nature, having taken single examples on aspen shoots on July 5, 9, 1952, July 9, 1958. For a good description of the life history in captivity, cf. Hedges, *Entomologist*, 83: 97-98.

#### 14. Knock Wood, Tenterden, one (1853) (Beale, *Zoologist*, 4130).

FIRST RECORD, 1809: "The present, is one of those remarkable species that were formerly taken in considerable plenty, and that for the last twenty years have hardly been found in England; no specimen of it occurred (sic) to any collector within our knowledge, for the last thirty years, till Mr. Neale took one at Charlton, about two years since; and the late remarkable fine season, which has afforded nearly a dozen more" (Haworth, *Lepidoptera Britannica*, 370).

#### **Rivula sericealis** Scop.: Straw Dot.

Native. Marshes, wet places, damp woods and meadows; foodplant unknown.

1. Lee district, plentiful 1860-62; Erith, 1875, 1879; Bexley, 1885, 1887, 1891 (Fenn, *Lep. Data MS.*). S.E. London (Lee district), "once a swarming insect in every lane, now (1894) far from common" (Fenn, *Ent. Rec.*, 6: 231). Bexley (L. T. Ford). Orpington, 1948 (L. W. Siggs). Petts Wood, 1950 (A. M. Swain). Abbey Wood, 1953 (A. J. Showler).

#### 2. Greenhithe\* (V.C.H. (1908)).

3. Den Grove, June 26 (2), 30 (1), 1940, June 13, 1941 (1) (C.-H.). Whitstable, one; Herne, one (P. F. Harris). Herne Bay district (D. G. Marsh).

4. Ham Fen, 1891 (Fenn, *Lep. Data MS.*); abundant, some worn, June 17, 1950, common, August 6, 1950 (C.-H.). Deal, 1892 (Fenn, *Lep. Data MS.*); June 22, 1935 (J. H. B. Lowe).

5. Halstead (R. E. E. Frampton MS.). Westerham (R. C. Edwards). Chelsfield, 1950 (A. M. Swain).

#### 6. Clay Lane Wood (H. C. Huggins).

6a. Darent Wood (Stainton, *Man.*); (E. J. Hare). Chattenden, 1875, 1888 (Fenn, *Lep. Data MS.*). [Chattenden] abundant (Porritt, *Entomologist*, 7: 181). Mark Oak Wood\* (Chaney (1884-87)).

#### 7. Chatham\* (Stainton, *Man.*). Wigmore Wood (Chaney, *loc. cit.*).

8. Folkestone Warren, common (Knaggs (1870)). Kingsdown (Shepherd, *Entomologist*, 17: 136). Stowting; Brook (C. A. W. Duffield). Elham, one, July 6, 1934 (W. E. Busbridge, *Diary*). Dover (Gardiner, *Ent. Gaz.*, 10: 9). Bettehanger, July 6, 1957 (R. F. Bretherton).

#### 9. Margate (H. C. Huggins); one, August 19, 1932 (H. G. Gomm, *Diary*);

one (P. F. Harris). Cliftonville, June 13, 1945 (W. D. Bowden).

10. Sevenoaks (Stainton, *Man.*). Westerham\* (Gorham, *Ent. week. Int.*, 7: 28). Knowle Park, about 8 at rest on walls, 1939 (H. E. Hammond).

11. Yalding (V.C.H. (1908)). Shipbourne (P. A. & D. J. A. Buxton coll.). Aylesford (G. A. N. Davis). Hoads Wood (E. Scott). Sevenoaks Weald, June 18-August 18, 1959; 1960; common (E. A. Sadler).

12. Ham Street, 1948 (C.-H.). Ashford, common (P. Cue). Wye, August 25, 1953 (1); September 18 (1), October 1 (1), 1954; June 23-July 11 (3), August 2-29 (6), 1955; June 26-July 9 (3), August 15-October 1 (9), 1956; Willesborough, June 17-July 10 (3), August 28-October 8, 1954; June 27-July 7 (4), August 16-September 20 (28), 1955; June 11-July 13 (12), September 1-23 (23), 1956; June 24 (1), August 16 (1), September 4 (1), 1957; August 29 (1), 1958; September 14-21 (3), 1963 (W. L. Rudland). Orlestone Woods, June 2, July 28, 1956 (R. F. Bretherton). Common at Orlestone Woods, Willesborough, and Brook (M. Singleton).

13. Tunbridge Wells (E. D. Morgan); two or three, 1958-59 (L. R. Tesch, *per* C. A. Stace).

14. Tenterden, very common (Stainton, *Man.*). Sandhurst, at light (G. V. Bull). Goudhurst, common (W. V. D. Bolt, *pers. comm.*, 1961).

15. Dungeness, one, July 19, 1932 (A. M. Morley).

16. Near Hythe\*, plentiful (Morley (1931)). Folkestone (Morley, *Ent. Rec.*, 64: 171).

FIRST RECORD, 1835: Kent (Wood, *Index Entomologicus*, 127).

**Phytometra viridaria** Clerck (**aenea** Hübñ.): Small Purple-barred.

Native. Chalk downs, woods, heaths; foodplant unknown. Plentiful in 5, 6, 7, 8. "Common in many places" (V.C.H. (1908)).

1. Near Birch Wood (Stephens, *Haust.*, 3: 121). S.E. London (Lee district), "has quite disappeared (1894), though formerly common" (Fenn, *Ent. Rec.*, 6: 231). Brockley (West, *Ent. Rec.*, 18: 230). Dartford Heath (Fenn, in *Wool. Surv.* (1909)). Chislehurst, one, May 19, 1921 (S. F. P. Blyth). Petts Wood, one, 1947, one, 1948 (E. Evans); 1950 (A. M. Swain). West Wickham (Trundell, in *de Worms, Lond. Nat.*, 1955: 66).

3. Blean Woods, one, May 16, 1866 (Fenn, *Diary*). Timber Wood, May 14, 1939 (12); East Blean Wood, May 20, 1939 (several) (C.-H.). Herne Bay, August 1, 1940 (A. J. L. Bowes).

6a. Near Darent Wood\* (Stephens, *loc. cit.*).

11. Wateringbury (V.C.H. (1908)). Mereworth Wood, a few, July 12, 1933 (A. R. Kidner, *Diary*). Hoads Wood (P. Cue).

12. Ham Street (Scott (1936)); frequent in Long Rope and adjacent woods in the Orlestone group; fairly numerous at m.v.l., July 1951 (C.-H.); common, 1959-60, in Orlestone Woods (M. Singleton).

13. Tunbridge Wells district (Cox, *Entomologist*, 4 (62): ii); common (E. D. Morgan). [Groombridge (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1931-32: 59), may be Sussex.]

14. Tenterden (Stainton, *Man.*).

15. Dymchurch, one at car lights, July 27, 1948 (P. le Masurier).

16. Folkestone (Morley, *Ent. Rec.*, 64: 171).

FIRST RECORD, 1830: Stephens, *loc. cit.*

**Parascotia fuliginaria** L.: Waved Black.

Resident. Old cellars, gardens; pabulum unrecorded.

The history of *fuliginaria* in Kent is rather curious. There are records

of the capture of some five authentic examples between 1881 and 1891, all in North-West Kent. Thereafter, it seems the species was not seen again in the county for over 70 years, until in 1963 and 1965, when it appeared in East Kent, in three widely separated localities.

1. Lewisham, August 1, 1881, a ♀ moth and two vacated cocoons in a cellar (Smith, *Entomologist*, 14: 212; idem, *Ent. mon. Mag.*, 18: 108); two ♀♀ taken here shortly afterwards were assumed to have originated from these cocoons (Smith, *Ent. mon. Mag.*, 18: 109). [Lewisham, one bred, 1882, A. Noakes (*Ent. Rec.*, 20: 285). Two ♀♀, Lewisham, are in Dale coll., one of which is dated August 1886 (*Ent. mon. Mag.*, 45: 176). One, "Blackheath, Stevens" (*Ent. Rec.*, 8: 15-16).]

2. Deptford\*.—"Has been taken near Deptford . . . by Mr. Farn" (V.C.H. (1908)).

6. Greenhithe.—"Has been taken . . . at Greenhithe by Mr. Farn" (V.C.H. (1908)); a ♂ taken by A. B. Farn in his light trap on August 2, 1891 (Huggins, *Ent. Gaz.*, 2: 75).

8. Dover, 1963, July 30 (♂), August 7 (♂), both taken by G. H. Youden in m.v. trap (Youden, *Proc. S. Lond. ent. nat. Hist Soc.*, 1963 (1): 45; and *in litt.*).

12. Ashford.—♀ taken at light by P. Cue in his garden in the town, July 15, 1963 (P. Cue). Potters Corner, one in a house, July 31, 1963 (J. G. Elliott, in Scott (1964)).

15. Lydd, one taken in the village at light by D. W. H. ffennell, August 15, 1965 (D. W. H. ffennell, *in litt.*).

FIRST RECORD, 1881: Lewisham (Smith, *Entomologist*, 14: 212).

#### GONOPTERINAE

##### **Scoliopteryx libatrix** L.: Herald.

Native. Woods, osier beds, marshes, waste places, etc.; on *Salix caprea*, osier, poplar. Found in all divisions; frequent, but seldom if ever plentiful. "Generally distributed" (V.C.H. (1908)).

The moth appears from late July or early August, and may thence be seen until November, and again after hibernation from March to June. In 1923, James (*Ent. Rec.*, 35: 163) records a "hibernated specimen" on the Deal sandhills that year on August 3, an abnormally late date, if indeed it was hibernated. It is sometimes noted at light and sugar; and Knaggs (1870) records it as having occurred at ivy bloom in the Folkestone district. Human habitations and outhouses are frequently chosen by the moth in which to hibernate, and many of the records are of its having been found in such situations.

The larva has been taken at West Wickham on *S. caprea* (C.-H.); at Charlton sandpit, on willow, July 31, 1946 (J. F. Burton); at Sevenoaks Weald, on poplar and *S. caprea* (E. A. Sadler); commonly at Dartford (div. 1) on poplar (B. K. West); and frequent on *Salix* at Chislehurst, 1951 (A. M. Swain). Also bred September 5, 1890, from a larva taken at Deal on osier (Fenn, *Diary*). D. R. M. Long has taken the larva at Chislehurst on sallow and poplar, and a pupa at Bromley on "weeping willow".

FIRST RECORD, 1859: Darent Wood (Harding, *Ent. week. Int.*, 6: 75).

##### [**Cosmophila sabulifera** Guen. ssp. **bipuncta** Warr.]

Importation?

13. Goudhurst.—"I captured last autumn, at sugar in my own orchard,

a specimen of *Cosmophila sabulifera* ab. *bipuncta* (Warren), which is an inhabitant of N. Africa, Japan, Malay and Australia" (Smyth, *Entomologist*, 69: 169); this specimen, which was taken in September 1935, was exhibited by G. V. Bull at the meeting on April 23, 1936 (Bull, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1936-37: 7.)]

#### HYPENINAE

##### **Bomolocha fontis** Thunb. (*crassalis* Treits.): Beautiful Snout.

Native. Woods; [on bilberry].

The species is apparently scarce and local in Kent, and like *Cephis advenaria* Hübn. (q.v.), has undoubtedly decreased in those areas where there has been a reduction of bilberry.

10. Westerham.—(see *First Record*). "Mr. Plastead first discovered this beautiful insect in shady groves at Westerham" (1829, Curtis, *Br. Ent.*, 288). "A very rare species within the metropolitan district, having only, so far as I am aware, been taken near Westerham in Kent by Mr. Plastead, and the late Mr. Haworth" (1834, Stephens, *Haust.*, 4: 13). "About fifty years since, Mr. Plastead caught a specimen . . . near Westerham, in Kent; a fact he communicated to my late friend Haworth, who proceeded in due season to the spot, and supplied his cabinet with a pair" (1851, Stephens, *Zoologist*, 3164). At Westerham (1859) (Gorham, *Ent. week. Int.*, 7: 28); several, June 1919 (E. J. Hare); "*Bomolocha fontis* . . . apparently on the decrease" (Jacobs, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1934-35: 17); in Goodly Stock, June 17, 1955 (♀), June 30, 1956 (♀), June 14, 1959 (♂) (C.-H.).

Sevenoaks.—June 17, 1851, three (Stephens, *Zoologist*, 3164); 1867 (Meek, *Ent. Ann.*, 1868: 121); 1868 (Gill, *Ent. Ann.*, 1869: 142). Seal Chart, "usually common" (Carrington, *Entomologist*, 13: 79); one, July 20, 1888 (Fenn, *Diary*). Brasted, July 6, 1901 (Adkin, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1901: 23); one, June 6, one, July 13, 1914 (Gillett, *Diary*); not common (R. M. Prideaux).

11. Mereworth Woods (E. Goodwin, teste W. A. Cope). Sevenoaks Weald, one at m.v.l., June 21, 1959 (E. A. Sadler).

FIRST RECORD, 1802: *Pyralis achatalis* (Haworth, *Prodromus*, 29). Identified in Haworth (*Lepidoptera Britannica*, 2: 367), with the provenance: "Exemplaria tria anglicana solum vidi. Imago i. Jun. Nemoribus Cantianis".

##### **Hypena proboscidalis** L.: Snout.

Native. Hedgebanks, thickets, copses, waste places, etc.; on *Urtica dioica*. In all divisions. "Generally common" (V.C.H. (1908)).

Although often plentiful amongst stinging nettles, especially in sheltered situations, and where the plant has become rank from being allowed to grow unchecked, the species may be markedly rarer in the area adjacent to the metropolis. At Bromley (div. 1), D. R. M. Long's m.v. trap counts for the past few years are: 1962 (20), 1963 (85), 1964 (87), 1965 (31); but further west in this division, at Blackheath, on the border of the metropolis, A. A. Allen records it as "rare and very local among nettles".

The moth is seemingly regularly double brooded; the first generation appearing about mid June to late July or early August, with a partial second generation throughout September and early October; the latter

generation specimens being appreciably smaller.

The larva on *U. dioica* at Bromley (D. R. M. Long); at Sidcup, May 27, 1928, young larvae fairly plentiful, September 19, 1928; at Farningham, several young larvae, September 14, 1926, several, May 20, 1928, young larvae fairly plentiful, September 27, 1929, September 25, 1930, May 10, 1931 (A. R. Kidner, *Diary*); at Chevening, imago emerged, June 18, 1917, ex larva (Gillett, *Diary*).

FIRST RECORD, 1861: Lewisham (Fenn, *Diary*, 20.vi.1861).

#### **H. rostralis** L.: Buttoned Snout.

Native. Hedges, gardens, bushy places; on hop.

Obs.—Hammond and Smith (*Ent. Gaz.*, 6: 170) recorded the larva as parasitized at Tunbridge Wells by a dipteron, *Blepharidopsis nemea* Mg.

1. Lewisham (Stainton, *Zoologist*, 1089, 1229). Lee, common, August 26, September 5, 1861 (Fenn, *Diary*); (Carr, *Entomologist*, 34: 108). Chislehurst, a few at sugar, August 1889 (Warburg, *Young Nat.*, 10: 233). Eltham; Westcombe Park; Blackheath; Shooters Hill; Greenwich (*Wool. Surv.* (1909)). Sidcup, seen most years, 1909-36; fairly plentiful at sugar and ivy, October 1909, October 2, 1923; larva, July 27, 1909, several larvae, July 5, 1925 (A. R. Kidner). West Wickham (Kershaw, *Entomologist*, 51: 66); (de Worms, *Lond. Nat.*, 1955: 75); one, October 9, 1956 (C.-H.). Bexley (L. T. Ford). Charlton, one, worn, June 8, 1947 (J. F. Burton). Blackheath, occasionally netted after dark in garden and in lane; one at light, c. 1949; not so far at m.v.l. (A. A. Allen, 24.iv.1960). Abbey Wood, 1952 (J. Green). Slade Green, larvae beaten from hop, July 18, 1954 (Hards, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1954-55: 87). Bromley, one, June 7, 1961 (D. R. M. Long).

2. Near Sheerness, 1871, very common in thatch and at ivy (Walker, *Ent. mon. Mag.*, 8: 185). Higham, September 19, 1912 (F. T. Grant). Royal Oak, Sheppeny, two, September 22-26, 1868 (J. J. Walker MS.).

3. Blean Woods, one, June 1, 1866 (Fenn, *Diary*). Herne Bay, April 1, 1933 (A. J. L. Bowes). Eddington, March 17, 1952 (D. G. Marsh). Broad Oak, odd specimens noted annually in spring and autumn; eight, May 22, 1939 (C.-H.). Canterbury, ♀, September 12, 1950 (D. G. Marsh).

4. Deal Sandhills, one, September 20, 1894 (Fenn, *Ent. Rec.*, 5: 300). Reculver, September 19, 22, 1935, September 14, 1937 (A. J. L. Bowes).

5. Chelsfield, abundant 1900 (Carr, *Entomologist*, 34: 108). Chevening, September 23, 1914 (Gillett, *Diary*). Halstead (R. E. E. Frampton MS.). Westerham (R. C. Edwards).

6. Longfield (Jennings, *Entomologist*, 4 (53), ii). Greenhithe\* (Farn MS.). Chalk, September 22, 1912 (F. T. Grant). Clay Lane Wood (H. C. Huggins). Horton Kirby (E. J. Hare).

6a. Mark Oak Wood\* (Chaney (1884-87)).

7. Chatham\* (Stainton, *Man.*). Wigmore Wood; Darland Hill (Chaney (1884-87)). Sharsted (H. C. Huggins). Westwell (Scott (1936)). Eastwell (Scott (1950)).

8. Folkestone\* (Knaggs (1870)). Barfreston (E. & Y. (1949)).

9. Ramsgate, one, August 4, one, September 17, 1912, one, April 1916 (J. W. C. Hunt). Minster, one, October 2, 1915 (H. G. Gomm); one, May 13, 1954 (W. D. Bowden).

10. Sevenoaks, May 13, 1919 (Gillett, *Diary*).

11. Yalding (V.C.H. (1908)). Shipbourne (P. A. & D. J. A. Buxton

coll.). Penshurst (R. E. E. Frampton MS.). Edenbridge, annually (F. D. Greenwood). Benenden (G. V. Bull). Great Chart (Scott (1936)). Aylesford (G. A. N. Davis).

12. Long Rope, Ham Street, one, September 9, 1949 (C.-H.). Ashford, to sugar in spring and autumn; one, April 2, 1954 (P. Cue). Willesborough, one, May 10, 1954, one, May 23, 1955, one, June 1, 1957; Wye, one, October 11, 1954 (W. L. Rudland). Orlestone Woods, one at light, 1956 (R. F. Bretherton).

13. Tunbridge Wells (E. D. Morgan); (Hammond and Smith, loc. cit.).

14. Tenterden, abundant (Stainton, *Man.*). Woodchurch (Scott (1936)). Sandhurst, at light and sugar; one, February 1952 (G. V. Bull). Tenterden, 1960 (C. G. Orpin).

16. Folkestone, one, May 26, 1954 (A. M. Morley).

VARIATION.—In my series, which is much too short for this variable insect, there are besides the type, specimens of ab. *unicolor* Tutt, from West Wickham and Broad Oak (C.-H.). Allchin (*Ent. week. Int.*, **8**: 5) states that in August 1859, he took a "long series" in Kent, which was "very varied".

FIRST RECORD, 1845: Lewisham (Stainton, *Zoologist*, 1089).

[**Plathypena scabra** F.: Black Snout.

Suspected importation.

1. Lee, one taken by C. G. Bruce in the m.v. trap in his garden, on August 31, 1956 (Bruce, *Entomologist*, **94**: 37; Bradley, *Ent. Gaz.*, **11**: 194; Mere, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1960: 24).]

**Schrankia taenialis** Hüb. (**albistrigalis** Haw.): White-lined Snout.

Native. Woods, copses, carr; foodplant unknown.

1. West Wickham Wood, July (Douglas, *Zoologist*, 3183). Bexley Park Wood, three, July 18, 1885, one, July 14, 1894 (Fenn, *Diary*). Chislehurst (V.C.H. (1908)).

3. Thornden Wood, July 29 (about 12 at sugar), 30 (7), 1865 (Fenn, *Diary*). East Blean Wood, July 3 (1), 12 (1), 17 (1), 20 (4), 1904; July 8 (numerous), 15 (3), 1905 (J. P. Barrett coll.). Blean, one, August 4, 1939; Herne, one, July 4, 1943 (P. F. Harris). Den Grove, three, 1938 (C.-H.).

4. Ham Fen, one, July 11, 1891 (Fenn, *Diary*; idem, *Ent. Rec.*, **2**: 203) ("Deal" (E. & Y. (1949)), may refer).

6a. Darent Village\* (Stephens, *Hast.*, **4**: 21). Darent Wood, September 1845, at sugar (Stevens, *Zoologist*, 1787); September 1846 (Grant, *Zoologist*, 1789). Greenthithe\*, September 1846 (Grant, *Zoologist*, 1789). Near Stone Wood\*, in a copse, one, August 4, 1888 (Fenn, *Diary*). Swanscombe Wood, three, August 1, 1903 (H. C. Huggins). North Kent\* [Chattenden], 1875 (Tugwell, *Entomologist*, **8**: 293). Chattenden Roughs; Mark Oak Wood (Chaney (1884-87)). Chattenden, a few, worn, July 27, 1908 (Ovenden, *Ent. Rec.*, **21**: 33).

7. Wigmore Wood (Chaney (1884-87)). Westwell, July 22, 1955 (1), June 27 (fresh ♀), July 22 (worn ♂), 1957, all at light (E. Scott); July 24, 1963 (1) (C.-H.).

8. Folkestone\* (Ullyett (1880)).

10. Penshurst\* (R. E. E. Frampton MS.).

11. Wateringbury, one (E. Goodwin coll.); two, July 4, 1959 (C.-H.).

12. Ham Street, June 30, 1935 (A. J. L. Bowes); one, July 20, 1948, by A. M. Morley (Scott (1950)); one at sugar in Orlestone Woods, July 28,

1956 (Bretherton, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1956: 21); one, July 28, 1962, in Long Rope (C.-H.).

14. Knock Wood, Tenterden, five, c. 1855 (Beale, *Diary*; idem, *Zoologist*, 4130).

FIRST RECORD, 1834: "A scarce insect, found occasionally within the metropolitan district, in the vicinity of Darenth village" (Stephens, *Haust.*, 4: 21).

**S. costaestrigalis** Steph.: Pinion-streaked Snout.

Native. Heaths, bogs, marshes; foodplant unknown.

1. West Wickham, one, August 25, 1846 (Stainton, *Zoologist*, 1791). Pauls Cray Common, two, August 3, 1887, one, July 21, 1888, one, June 10, 1890, one, June 19, 1890, one, July 28, 1894 (Fenn, *Diary*) ("Chislehurst" (V.C.H. (1908)), may refer). Chislehurst, one, 1898, fourteen, 1910 (R.C.K.).

3. Thornden Wood, three, July 30, 1865 (Fenn, *Diary*). Canterbury, six, July 1880 (J. P. Barrett coll.).

4. Ham Fen, one, July 2, 1955 (C.-H.).

6. Springhead, not uncommon at watercress swamp, August 22, 1912, June 13, 16, 1913 (H. C. Huggins).

6a. Kent [Chattenden?]\* several, August 1859 (Allchin, *Ent. week. Int.*, 8: 5); 1875 (Tugwell, *Entomologist*, 8: 293). Chattenden Roughs, at sugar, not common (Chaney (1884-87)).

8. Folkestone Warren, one (Knaggs (1870)).

12. Long Rope, Ham Street, one, September 10, 1949 (C.-H.). Hothfield, June 27, 1960; September 1, 8, 10, 1961 (P. Cue); July 23, 1961, "not uncommon in the long grass and rushes" (Scott, *Bull. K. Fld. Cl.*, 7: 32).

13. Pembury, occurs commonly (Stainton, *Man.*).

15. Dungeness, August 3, 1937 (A. J. L. Bowes); one, 1953 (R. Ellison, teste A. M. Morley); five ♂♂ at sugar, September 26, 1953, mostly worn (C.-H.); one, September 22, 1955 (E. C. Pelham-Clinton).

VARIATION.—The fifteen specimens in R.C.K. from Chislehurst are labelled as ab. *monotona* Lempke.

FIRST RECORD, 1847: West Wickham (Stainton, *Zoologist*, 1791).

**Zanclognatha tarsipennalis** Treits.: Fanfoot.

Native. Woods, plantations, hedgebanks, gardens, etc.; on raspberry, bramble. Recorded from all divisions, except 4, 9, 15. "Generally abundant" (V.C.H. (1908)).

The V.C.H. assessment is unsupported by the records. The moth is of frequent occurrence, but I am unaware of a single instance of real abundance. It often occurs at light, and is noted singly or in small numbers at dusk or from being disturbed from cover by day. It has also been observed, though rarely, at sugar, as at Wigmore Wood (Chaney (1884-87)); and at buddleia, at Ashford, August 17, 1938 (E. Scott), and Broad Oak (C.-H.). At Bromley, D. R. M. Long's m.v. trap counts for 1960-65, are: 1960 (32), 1961 (9), 1962 (27), 1963 (38), 1964 (35), 1965 (37); with earliest and latest dates, June 16, 1960, and 1964, and September 1, 1962; and maximum daily total, eight, on July 10, 1960.

Theobald (*J. S.-E. Agric. College, Wye*, 1904 (13), 129) states that [in Kent] the "chief foodplant of the caterpillar is the raspberry, upon which it frequently occurs in small numbers"; and adds, it "is found in September and October, and mostly feeds amongst dried leaves. The pupa is formed

in a cocoon amongst leaves on the canes". Tutt (1896, *Br. Moths*, 321) has the following generalisation: "The larva feeds on raspberry, and hence, in the fruit-growing districts of Kent, the species is very abundant". D. R. M. Long has taken the larva on bramble, at Bromley.

FIRST RECORD, 1834: Darent Wood (Stephens, *Haust.*, 4: 17).

**Z. nemoralis** F. (*grisealis* Schiff.): Small Fanfoot.

Native. Woods, copses, parks, bushy places, etc.; on *Clematis vitalba*. Frequent and recorded from all divisions, except 4, 15. "Generally common" (V.C.H. (1908)).

The moth is evidently fairly generally distributed, and its range extends to the borders of the metropolis, where A. A. Allen notes it as not uncommon in his garden at Blackheath, amongst brambles, etc. At Bromley, D. R. M. Long's m.v. trap counts show it to be rather less numerous there at light than its congener *Z. tarsipennalis* Treits.; with earliest and latest dates, June 7, 1961, August 24, 1965; and maximum daily total, six, July 3, 1964.

A. R. Kidner (*Diary*) records three larvae on *C. vitalba*, at Bexley Park Wood, August 27, 1921.

VARIATION.—South (*Entomologist*, 44: 1, fig.) recorded a ♀ ab., taken by P. Richards, at Wye, June 3, 1910, which Cockayne (*Ent. Rec.*, 63: 164) named *approximata*.

FIRST RECORD, 1834: "Open parts of Darent and other woods" (Curtis, *Br. Ent.*, 527).

**Z. cibrumalis** Hübn. (*cibralis* Hübn.): Dotted Fanfoot.

Native. Marshes, ditches; foodplant unknown.

Range very restricted in Kent, being only recorded from between Erith and Cliffe, and from about the estuary and lower valley of the Stour.

2. Dartford Marshes, one, July 20, 1887, six, July 6, 1889, five, July 15, 1890 (Fenn, *Diary*). Shorne Mead, common, c. 1910 (H. C. Huggins); July 8, 1927 (F. T. Grant). Greenhithe\* (V.C.H. (1908)).

4. Ham Fen, July 14, 1891 (Fenn, *Diary*; idem, *Ent. Rec.*, 2: 204). Minster, two, July 10, 1913 (H. G. Gomm, *Diary*). Westbere, ♀, July 24, 1946 (C.-H.). Stoneless, between Ebbsfleet and Richborough, many flying at dusk, a high proportion of which were worn, July 1, 1950; several, June 16, 1952 (C.-H.). Sandwich, one, July 30, 1951, between the town and sandhills (W. D. Bowden).

6. Springhead, common, c. 1910 (H. C. Huggins).

FIRST RECORD, 1887: Dartford Marshes (C. Fenn, *Diary*, 20.vii.1887).

**Paracolax derivalis** Hübn.: Clay Fanfoot.

Native. Woods; on oak. Scarce in W. Kent (v.-c. 16).

1. Bexley neighbourhood; Woolwich (Stephens, *Haust.*, 4: 16). Birch Wood, one, c. 1829, by Mr. Bentley (Chant, *Ent. Mag.*, 1: 213). Joydens Wood, one, July 7, 1952 (K. H. Hyatt). Farningham Wood, one, 1952 (B. K. West).

3. Herne Bay, one, August 1, 1864 (Crutwell, *Young England*, *per Ent. Ann.*, 1865: 113); occasionally (D. G. Marsh). Near Canterbury (Parry, *Entomologist*, 5: 394). Bysing Wood (H. C. Huggins). East Blean, 1922; Trenley Park, three, July 1, 1921, two, July 18, 1923 (H. G. Gomm, *Diary*). Mincing and Thornden Woods (A. J. L. Bowes). Little Hall Wood, 1940;

Den Grove; West Blean, and adjacent woods; in small numbers regularly (C.-H.).

4. Ickham, several, 1954-59 (D. G. Marsh).
5. Halstead (R. E. E. Frampton MS.). Meanfield Hill, Shoreham, four larvae beaten off oak, September 29, 1950 (H. E. Hammond).
6. Otford, 1955 (W. B. L. Manley, in de Worms, *Lond. Nat.*, 1955: 74).
- 6a. Collyers Wood, Greenhithe, one, August 9, 1832 (Chant. *Ent. Mag.*, 1: 213). Darenth Wood, 1836 (*Ent. Mag.*, 4: 155); (E. J. Hare).
7. Long Beech Wood, July 29, 1939 (C.-H.). Westwell, June 30, 1949 (E. Scott).
8. Dover (Stephens. *Haust.*, 4: 16); one, in Folkestone Road, Dover, July 13, 1905 (H. D. Stockwell, *Diary*; Stockwell coll.). Folkestone\* (Ulliyett (1880)). Near Barham, not uncommon; Deal\* (E. & Y. (1949)).
10. Seal Chart, one, 1951 (G. A. N. Davis).
11. Aylesford, one, 1954 (G. A. N. Davis). Wateringbury, one, July 25, 1953 (C.-H.). Hoads Wood (P. Cue, teste E. Scott); one August 2, 1936 (R. G. Chatelain). Sevenoaks Weald, ♂, at m.v.l., September 7, 1960 (E. A. Sadler).
12. Ham Street Woods.—Abundant at light, July 22, 1934 (A. J. L. Bowes, *Diary*); common (Scott (1936)); annually in Long Rope and adjacent woods, at light and disturbed by day (C.-H.); abundant, July 28, 1956 (R. F. Bretherton). Ashford Town, July 19, 1954 (P. Cue). Brook\* (C. A. W. Duffield). West Ashford, several at light, 1958 (M. Enfield). Willesborough, 1954 (1), 1956 (6), 1957 (8), 1958 (3), 1963 (3); Wye, 1953 (2), 1954 (2), 1955 (2) (W. L. Rudland).
13. Tunbridge Wells district\*, scarce (M. M. Phipps, in Knipe (1916)). Goudhurst, three at light, 1952 (W. V. D. Bolt).
14. Tenterden, not uncommon (Beale, *Zoologist*, 4130). Great Heron Wood, about twelve, July 24, 1949 (C.-H.).
16. Folkestone Town, one, August 7, 1953 (A. M. Morley).

VARIATION.—Ab. *approximata* C.-H., holotype ♀, Ham Street, 1956 (C.-H., *Entomologist*, 94: 283). In R.C.K. are the following ab.:—*suffusa* Lempke, two, Ham Street, 1948; *latelineata* Lempke, one, Ham Street, 1948; *obsoleta* Lempke, one, labelled "F. Bond coll., Fordwich, Kent"; *trans. ad signata* Lempke, one, Ham Street, 1948.

FIRST (PUBLISHED) RECORD, 1832: Kent (Rennie, *Conspectus*, 146).

#### **Herminia barbalis** Clerck: Common Fanfoot.

Native. Woods, copses; foodplant unknown. Much scarcer in W. Kent (v.-c. 16), though formerly plentiful there. Rare or extinct in 1. Unrecorded from 13, but unlikely to be absent.

1. West Wickham, May-June 1859 (26) (Allchin, *Ent. week. Int.*, 8: 5); two, June 1, 1861 (Fenn, *Diary*); 1862 (Wormald, *Week. Ent.*, 1: 142). Wilmington Wood (Leigh, *Week. Ent.*, 2: 134). Sydenham, two, c. 1888 (Sellon, *Ent. Rec.*, 2: 164). Shooters Hill (J. W. Tutt, in *Wool. Surv.* (1909)). Eltham (A. H. Jones, in *Wool. Surv.* (1909)). Abbey Wood, one, 1952 (J. Green, teste Showler, *Ent. Rec.*, 68: 168).
3. Bysing Wood (H. C. Huggins). West Blean Wood, June 2, 1932 (W. E. Busbridge, *Diary*). Blean, June 20, 1955, abundant (R. F. Bretherton). Broad Oak, plentiful and of regular occurrence in all woods in the vicinity (C.-H.).
4. Plucksgutter, one, June 9, 1945 (W. D. Bowden). Ickham, several, 1954-59 (D. G. Marsh).

5. Westerham (R. C. Edwards).
6. Dartford\* (W. West, in *Wool. Surv.* (1909)). Greenhithe\* (V.C.H. (1908)). Clay Lane Wood (H. C. Huggins). Pinden district, in woods\* (E. J. Hare). Trottescliffe (McDermott, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1957: 70).
  - 6a. Darent Wood (see *First Record*); June 21, 1862 (Fenn, *Diary*); fairly common, 1910 (H. C. Huggins). Swanscombe Wood, twelve, 1848 (Hodgkinson, *Zoologist*, 2328). Chattenden, June 2, 1869 (J. J. Walker MS.); two, June 18, 1884, four, June 8, 1889 (Fenn, *Diary*); not common (Chaney (1884-87)).
7. Kings Wood (Scott (1936)); June 24, 1951 (W. D. Bowden). Challock Woods (Scott (1964)).
8. Folkestone Warren (Knaggs (1870)). Near Deal\* (Shepherd, *Entomologist*, 17: 138). Elham Park Wood, one, July 3, 1926, at acetylene light; Elham, two, June 22, 1933, four, July 7, 1934; Atchester Wood, Selling, two, at acetylene light, July 18, 1931 (W. E. Busbridge, *Diary*). Covert Wood, June 10, 1935 (J. H. B. Lowe); June 13, 1949 (G. H. Youden). "Comes to light in the woods S.W. of Barham" (E. & Y. (1949)); probably refers to the Covert Wood and Elham localities (C.-H.).
10. Westerham (R. C. Edwards); 1951 (Leston, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1951-52: 72).
11. Aylesford (G. A. N. Davis). Hoads Wood, May 29, 1949 (E. Scott); one, June 15, 1955 (W. L. Rudland).
12. Ham Street (Scott (1936)); of regular occurrence and fairly numerous in the Orlestone Woods (C.-H.); June 2-4, 1950, July 1, 1954, June 1-2, 1956, in Orlestone Woods (R. F. Bretherton); common in Orlestone Woods, 1959-60 (M. Singleton); June 15, 1962 (R. G. Chatelain). Ashford Town, c. 1953 (P. Cue). Brook\* (Scott (1936)).
14. Tenterden, very common (Stainton, *Man.*). Woodchurch (Scott (1936)).
16. Folkestone, one on fence, June 24, 1942 (A. M. Morley).

VARIATION.—In R.C.K., is ab. *demaculata* Lempke, one, "S.E. Kent 6.1922 W. G. S[heldon]".

FIRST RECORD, 1834: "Extremely common in the woods in the vicinity of the metropolis, as at . . . Darent" (Stephens, *Hast.*, 4: 15).

**Laspeyria flexula** Schiff.: Beautiful Hook-tip.  
Native. Woods, old orchards, parks; on "lichen".

1. Lewisham (see *First Record*). West Wickham (West, *Ent. Rec.*, 18: 230); one, at m.v.l., 1958 (C.-H.); a few (R. F. Birchenough, in de Worms, *Lond. Nat.*, 1955: 72). Orpington, 1949 (L. W. Siggs). Lee, two, 1952 (C. G. Bruce). St. Mary Cray, one at light, July 1, 1964 (R. G. Chatelain). Bromley, July 29, 1962 (1), July 20, 1963 (1), August 8, 1965 (1) (D. R. M. Long).
3. Den Grove, one, July 14, 1938, one, June 25, 1940; Broad Oak, one, July 11, 1946, one, June 22, 1952 (C.-H.). Herne Bay (D. G. Marsh).
4. Ickham, several, 1954-59 (D. G. Marsh).
5. Halstead (R. E. E. Frampton MS.). Westerham (R. C. Edwards). Lullingstone Park, a larva beaten from a hawthorn bush (lichen on ?), 1959 (D. R. M. Long).
6. Luddesdown (H. C. Huggins). Wrotham, 1947 (W. A. Cope). Shore-

ham, August 2, 1962 (1) (C. G. Bruce). Pinden, one, July 4, 1957 (E. J. Hare, in de Worms, *Lond. Nat.*, 1959: 116).

7. Westwell, July 15, 1934 (A. J. L. Bowes). Boxley (A. H. Harbottle).

8. Elham, one, July 6, 1934 (W. E. Busbridge, *Diary*). Brook\* (Scott (1936)). Ewell Minnis; St. Radigund's; Wingmore (E. & Y. (1949)). Wye\* (Scott (1950)). Dover, several, 1954 (B. O. C. Gardiner). Bettleshanger, July 6, 1957 (R. F. Bretherton). Brook, one, 1959 (M. Singleton); one, 1960 (M. Enfield).

10. Westerham\* (Gorham, *Ent. week. Int.*, 7: 28). Sevenoaks (V.C.H. (1908)). Brasted, at light (R. M. Prideaux).

11. Yalding, occasionally at light (Reid, *S. east. Nat.*, 1904: 52). Shipbourne, one, 1910 (Buxton, *Ent. Rec.*, 23: 314). Edenbridge, 1930, 1933 (F. D. Greenwood). Hoads Wood (Scott (1936)); larvae on lichen, c. 1953 (P. Cue). Tonbridge, one larva on lichen on hawthorn, 1951 (H. E. Hammond). Aylesford (G. A. N. Davis). Sevenoaks Weald, two, June 22-July 3, 1959, four, July 1-29, 1960 (E. A. Sadler).

12. Ham Street.—July 1934, June 30, 1935 (A. J. L. Bowes); comes regularly to light in Orlestone Woods (C.-H.); Faggs Wood, 1960 (Scott, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1960: 87). Chartham (P. B. Wacher). Wye, July 10-August 7, 1953 (16), July 20-August 3, 1954 (7), July 10-August 2, 1955 (3), July 14-August 10, 1956 (7); Willesborough, July 12, 1955 (1), July 13-31, 1956 (10), June 29-August 6, 1957 (5), July 9, 1958 (1), August 8-15, 1963 (3), July 19, 1964 (1) (W. L. Rudland). Willesborough, one, 1961; West Ashford, fairly common, 1961 (M. Singleton). Ashford Town, common in garden, larva on lichen on apple trees; Ashford Warren, larvae on broom, 1957 (P. Cue).

13. Pembury (Stainton, *Man.*). Tunbridge Wells (E. D. Morgan); 1957-58, two or three (L. R. Tesch, *per* C. A. Stace). Goudhurst, common (W. V. D. Bolt).

14. Tenterden, one (Beale, *Zoologist*, 4130). Sandhurst, at light (G. V. Bull). Hawkhurst, six at light, 1952 (B. G. Chatfield).

15. Dymchurch, three, 1952 (Wakely, *Ent. Rec.*, 65: 44).

16. Folkestone, one, 1951 (Morley, *Ent. Rec.*, 64: 171). Sandgate, 1961 (1) (N. Reay-Jones).

FIRST RECORD, 1845: Lewisham (Stainton, *Zoologist*, 1894).

## Additions and Corrections to Vol: 2

### GENERAL

A. M. Swain died on 20th January, 1956. All Swain observations up to that date should be attributed to him or to him and his son, F. A. Swain, and after that date to F. A. Swain.

### SPECIES

#### *L. populi* L.

p. 2—

Sevenoaks Weald (div. 11), larva on *Salix fragilis* (E. A. Sadler).

#### *S. ocellata* L.

p. 3—

Clifford (*Young Nat.*, 7: 253) records the form of the larva [as occurring in the Gravesend district], "which is adorned with rows of red spots".

#### *A. atropos* L.

p. 3:

line 18 from bottom—for "**atropes**" read: **atropos**.

p. 4—

Curtis (*Farm Insects*, 443) states that all his specimens of the Ichneumon, *Trogus atropos*, were bred (from *A. atropos*) or taken at Rochester, Darenth and other localities in Kent. Theobald (*J. S.-E. Agric. College, Wye*, 1910 (19): 171) states that in the Wye district in 1910, the potatoes "were much smaller with potato blight and the leaves shrivelled up long before the larvae were mature". The larvae "then passed on to the small bind-weed which grows so commonly in potato fields and plots".

#### *H. convolvuli* L.

p. 5—

A full-grown larva of the brown form was shown to A. A. Allen at Manston (div. 9) c. 1931 (A. A. Allen). 1962: Dartford (div. 2), ♀ on lamp standard, October 11 (B. K. West). 1964: Ickham, ♂ in m.v. trap, June 8 (D. G. Marsh).

Line 14 from top—for "**convoluli**" read: **convolvuli**.

#### *S. ligustri* L.

p. 6—

Two larvae on a cultivated *Spiraea* bush in Hayes (div. 1), 1942 (Sankey, *Ent. mon. Mag.*, 78: 244). A larva on *Laurustinus* (*Viburnum tinus*) in Dartford (div. 2) (B. K. West). A larva on *Forsythia* in a garden at Platt (div. 11) (C. A. MacDermott).

#### *H. pinastri* L.

p. 6—

Orpington (div. 1), ♂ taken in light trap, July 8, 1963 (Webb, *Bull. Amat. ent. Soc.*, 1964, 23 (263): 72). Westerham (div. 5), R. C. Edwards showed me a rather worn melanic *pinastri* he took on June 30, 1963, at light at his house (C.-H.). Willesborough (div. 12), one in m.v. trap, June 27, 1963 (W. L. Rudland). Goudhurst (div. 13), one at m.v.l., July 3, 1963 (W. V. D. Bolt).

#### *C. euphorbiae* L.

p. 7—

line 19 from bottom—for "**euphoribae**" read: **euphorbiae**.

line 27 from bottom—before "Bred" insert: "

*C. galii* Rott.

p. 9—

1955: High Halden (div. 11), "one seen by me flying over petunias in early evening in a garden among a lot of *P. gamma*" (P. Cue, *in litt.*). 1956: "A full-fed larva was brought to me in June 1956 from the Hoo region . . . the moth emerged 14th July 1956" (div. 2) (B. C. A. Earl, *in litt.*). 1959: Boxley (div. 7), August 14 (French, *Entomologist*, **95**: 175).

*H. celerio* L.

p. 11:

line 13 from bottom—delete first ":".

p. 12—

N.c.: Ramsgate (div. 9) (Dale, *Naturalist*, v.c./1837, **1**: 13). 1962: Kingsgate (div. 9), a perfect specimen found on November 8, by M. Condliffe. "at rest on a small grape vine in a north facing greenhouse and given to me" (W. D. Bowden, *in litt.*).

*D. porcellus* L.

p. 13—

Dungeness (div. 15), in m.v. trap, 1964, June 5-30 (105), with maximum (14) on June 25 (R. E. Scott).

*D. elpenor* L.

p. 13—

Faggs Wood, Ham Street (div. 12), about 30 *elpenor* at light, June 17, 1964 (C. G. Bruce).

*M. stellatarum* L.

p. 15—

"*M. stellatarum* in greenhouse at Forge Nursery, Northdown, Margate" (div. 9), on March 12, 1957 (W. D. Bowden, *Diary*). Lydd (div. 15), one, April 7, 1960 (C. G. Orpin).

*H. fuciformis* L.

p. 16—

Long Rope, Ham Street (div. 12), one, May 25, 1964 (C.-H.).

*H. tityus* L.

p. 17—

In a wood near Ashford, "I have several times taken the larvae there in July on its foodplant *Scabiosa succisa*" (Jeffrey, *Trans. E. Kent nat. Hist. Soc.*, **1906**: 17). Ashford, "we found the larvae several years in succession near here twelve or fifteen years ago" (Jeffrey, *Trans. E. Kent nat. Hist. Soc.*, **1908**: 12).

*H. bicuspidis* Borkh.

p. 17—

Bexley (div. 1) (de Worms, *Lond. Nat.*, **1964**: 32). Orpington (div. 1), one in m.v. trap, June 17, 1966 (Watkinson, *Bull. Amat. ent. Soc.*, **25** (273): 139).

Line 11 from bottom—for "Gouldhurst" read: Goudhurst.

*H. bifida* Brahm

p. 18:

line 14 from top—transfer the following to between lines 11 and 12 from top: Eddington (div. 3), ♀, May 19, 1951 (D. G. Marsh). Meopham (div. 6), one, May 16, 1961 (J. Ellerton). W. Ashford, two, 1961 (M. Enfield). Willesborough, one, July 22, 1963 (W. L. Rudland). Dungeness, one, May 31, 1962 (R. E. Scott). Sandgate (div. 16), one, 1961 (N. Reay-Jones).

*H. furcula* Clerck

p. 20—

Sevenoaks Weald (div. 11), May 15-August 8, 1961 (5) (E. A. Sadler). Willesborough (div. 12), 1961 (2); W. Ashford, 1961 (2); Orlestone Woods, a larva, 1960 (M. Singleton). Willesborough, 1963 (2), 1964 (4) (W. L. Rudland). Ham Street Woods, August 19, 1955 (2) (W. E. Busbridge). Dungeness (div. 15), 1964, May 26 (1), August 4-13 (4) (R. E. Scott).

*C. vinula* L.

p. 21—

"Larva as frequent on Sallow as on Poplar in N. Kent. In one year a large number were noted feeding on Abele (*Populus alba*) shoots not more than a few inches high between Knockholt and Badger's Mount" (div. 5) (D. Lanktree, *in litt.*, 30.xii.1961). Higham (div. 2), larvae on apple, 1937 (Massee, *Rpt. E. Malling Res. Stn.*, 1937: 207).

*S. fagi* L.

p. 21—

Eynsford (div. 6), several, 1964 (R. G. Chatelain). Westwell (div. 7), fullgrown larva beaten from low bough of beech, September 6, 1959 (D. R. M. Long). Covert Wood (div. 8), June 13, 1949; Dover Town, one, 1950 (G. H. Youden).

p. 22—

Chart Sutton (div. 11), larvae feeding on apple (Theobald, *J. S.-E. Agr. College, Wye*, 1910 (19): 94). Sevenoaks Weald, 1960 (5) (E. A. Sadler). E. Malling dist., several larvae on apple (Massee, *Rpt. E. Malling Res. Stn.*, 1936: 225). Willesborough (div. 12), 1961 (one typical, one ab. *obscura*) (M. Singleton). Dungeness (div. 15), one in m.v. trap, June 19, 1964 (R. E. Scott); presumably casual (C.-H.).

*D. dodonaea* Schiff.

p. 23—

Ab. *purpurascens* , Orlestone Woods, one, June 4, 1961 (de Worms, *Entomologist*, 95: 101; Messenger, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1961: 45, plt. 2, fig. 6).

*C. ruficornis* Hufn.

p. 24—

Sevenoaks Weald (div. 11), April 22-May 14, 1960 (43) (E. A. Sadler); Maidstone, one at light, May 26, 1955 (E. Philp). Ashford (div. 12), 1902 (Jeffrey, *Trans. E. Kent nat. Hist. Soc.*, 1902: 38).

*P. gnoma* F.

p. 26—

Dungeness (div. 15), August 4, 1963 (1), August 11, 1964 (1) (R. E. Scott).

*N. dromedarius* L.

p. 29—

Dungeness (div. 15), 1963 (1), 1964 (4) (R. E. Scott). Sandgate (div. 16), 1960 (2), 1961 (2) (N. Reay-Jones).

Line 6 from top—for "Eltham" read: Elham.

*N. trepida* Esp.

p. 30—

Sidcup (div. 1), two at lamp, 1895 (G. H. Hickling and H. E. Page MS.). Broad Oak (div. 3), 2 ♂♂ at electric light, May 30, 1952 (C.-H.). Covert Wood (div. 8), June 13, 1949 (G. H. Youden). Seven-

oaks Weald (div. 11), 1960 (4) (E. A. Sadler).

Line 17 from bottom—for “45H” read: 45: 80.

p. 31—

Cranbrook (div. 13), 1961 (4); Biddenden, 1961 (1); Tenterden (div. 14), 1961 (1) (C. G. Orpin).

*L. cucullina* Schiff.

p. 31-32—

Farningham Woods (div. 1), imago and two larvae, 1962 (R. G. Chatelain). Orpington, about 10 in m.v. trap, 1964 (R. G. Chatelain); August 10, 15, 19, 1965, in m.v. trap (I. A. Watkinson). Downe (div. 5), two larvae on maple (C.-H., *Proc. S. Lond. ent. nat. Hist. Soc.*, 1962: 102). Dover (div. 8), one or two annually in garden at m.v.l., since 1953 (G. H. Youden *in litt.*, 1.v.1962). Brook, ovum found on maple, May 30, 1949, imago emerged July 1949 (H. Symes). Willesborough (div. 12), 1957 (1) (W. L. Rudland). Orlestone Woods (div. 12), June 28 (1), July 24 (1), 1963, both at light (B. K. West).

*L. capucina* L.

p. 32—

E. Malling (div. 11), larvae on apple, 1956 (Massee, *Rpt. E. Malling Res. Stn.*, 1957: 133). Dungeness (div. 15), one, June 5, 1964 (R. E. Scott).

*O. carmelita* Esp.

p. 33—

Eynsford (div. 6), one, flying, May 2, 1962 (B. K. West). Shorne Ridgeway (div. 6a), one, June 6, 1964 (E. J. Trundell). Hoads Wood (div. 11), several, 1961 (M. Singleton). Goudhurst (div. 13), at m.v.l., April 29 (1), May 12 (1), 1963 (W. V. D. Bolt).

Line 3 from bottom—for “1959” read: at m.v.l., April 1960.

*P. plumigera* Schiff.

p. 34—

Ashford [Wye] (div. 8)\*, November 18, 1961 (Haynes, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1961: 58).

*P. palpina* Clerck

p. 35:

line 21 from bottom—for “Darneth” read: Darenth.

*P. bucephala* L.

p. 35—

Larvae in 1907 in several parts of Kent. on beech and goat Willow (Theobald, *J.S.-E. Agric. College, Wye*, 1907 (16): 162). Lewisham, one on a gas lamp, October 11, 1865 (Knaggs, *Ent. mon. Mag.*, 2: 238). Woodnesborough (div. 4), ova and larvae on cob nuts and filberts, 1906 (Theobald, *J.S.-E. Agric. College, Wye*, 1906 (15): 73, 1907 (16): 72). Borden Hill, Sittingbourne (div. 7), over 100 larvae on cherry trees (Theobald, *loc. cit.*). Wye (div. 12), defoliating cobs (Theobald, *Insect and Allied Pests*, 292).

*C. curtula* L.

p. 36—

Meopham (div. 6), June 4, 1958, May, 18, 1960 (J. Ellerton).

Line 3 from bottom—for “willow” read: *Salix fragilis*.

*C. anachoreta* Schiff.

p. 38—

1964: Dover Town (div. 8), ♂ in m.v. trap, July 26 (G. H. Youden).

*H. pyritoides* Hufn.

p. 41—

Dungeness (div. 15), 1963 (1), 1964 (7) (R. E. Scott).

*T. batis* L.

p. 41—

Dungeness (div. 15), one, August 27, 1964 (T. W. Harman).

*T. ocularis* L.

pp. 42-43—

Hayes (div. 1), one at sugar, July 14, 1938 (R. F. Birchenough). Lee, common at m.v.l., 1952-62 (C. G. Bruce). Orpington, June 19 (1), July 9 (1), 10 (2), 1966 (I. A. Watkinson). Ham Fen (div. 4), one, 1955; Ickham, three, 1955; St. Margaret's Bay (div. 8), one melanic, 1950; Dover, one, 1952, two, 1953, one melanic, 1955 (G. H. Youden). Meopham (div. 6), June 6, July 4, 5, 1959, June 18, 1960, June 7, 1961 (J. Ellerton). Brook (div. 8), 1961 (de Worms, *Entomologist*, 95: 101). St. Peters (div. 9), June 27 (1), July 7 (1 melanic), 1957 (W. D. Bowden). Sevenoaks Weald (div. 11), June 18-25, 1960 (6) (E. A. Sadler). Maidstone, one, June 30, 1962 (B. K. West). Ham Street (div. 12), 1962 (de Worms, *Entomologist*, 96: 55). W. Ashford and Willesborough, common, 1961 (M. Singleton).

This is one of those species that has shown a very remarkable extension of range within recent years. It was unknown to occur with any certainty in Kent prior to 1900, though in 1879, Carrington (*Entomologist*, 12: 211) ambiguously referred to it as a species that "may be taken" in Darent Wood (C.-H.).

*T. or* Schiff.

p. 44—

Coombe Wood (div. 8), three, 1896-98; Poulton, one, 1899 (Stockwell, *Diary*). Dover, one, June 28, 1957 (G. H. Youden).

*T. duplaris* L.

p. 45—

Ickham (div. 4), two, 1956; Westwell (div. 7), one, 1957; Ham Street (div. 12), one, 1955, one, 1957 (G. H. Youden). Willesborough (div. 12), one, 1961 (M. Singleton); two, 1963 (W. L. Rudland). Ham Street, several, July 24, 1965 (R. G. Chatelain). Goudhurst (div. 13), four, 1955 (W. V. D. Bolt). Woodchurch (div. 14), one, August 6, 1899 (Stockwell, *Diary*).

*T. fluctuosa* Hübn.

pp. 46-47—

Abbey Wood (div. 1) (Juby and Hards, 1925). Farningham Woods, one, July 27, 1962; Orpington, one in m.v. trap, July 1, 1963 (R. G. Chatelain). Fairseat (div. 6), July 30, 1960, July 22, 1961 (J. Ellerton). Barham (div. 8), several, 1959 (G. H. Youden). Woods near Riverhead (div. 10)\*, one, June 3, 1950; Penshurst (div. 11)\*, several, June 8, 1945 (D. G. Marsh). W. Ashford (div. 12), two, 1961 (M. Enfield). Ham Street, 1962 (de Worms, *Entomologist*, 96: 55). Goudhurst (div. 13), two, 1956 (W. V. D. Bolt).

*A. diluta* Schiff.

p. 48—

Dover Town (div. 8), one, September 7, 1950 (G. H. Youden).

*A. flavicornis* L.

p. 48—

Broad Street (div. 7), April 10, 1955 (2) (E. Philp).

p. 49—

Orlestone Woods (div. 12). common. 1961 (M. Singleton). Goudhurst (div. 13), not uncommon at light (W. V. D. Bolt. personal communication, 1961).

*P. ridens* F.

p. 49—

Bromley (div. 1), one in m.v. trap. May 2, 1966 (D. R. M. Long)  
Line 14 from bottom—for "Hods" read: Hoads.*O. antiqua* L.

p. 51—

It is likely this species was formerly plentiful in the Kent orchards. Theobald (*J. S.-E. Agric. College, Wye, 1908* (17). states that ova were found in January 1907, at Brenchley and Leeds (both in div. 11), and the same observer cites S. Pickering as saying that paraffin emulsion is fatal to the larvae.

Darenth Wood, larva beaten from birch, September 12, 1934. imago reared September 28 of the same year (A. R. Kidner).

*D. fascelina* L.

p. 51—

Willesborough (div. 12), one in m.v. trap. July 17, 1964 (W. L. Rudland); is suspected casual (C.-H.). Dungeness (div. 15). in m.v. trap, July 14-September 3, 1962 (65), with maximum (8) on August 6; July 6-August 20, 1963 (99), with maximum (10) on July 22, 23, August 3; June 27-August 8, 1964 (217), with maximum (26) on July 28; Boulderwell, July 9-August 23, 1966 (28), with maximum (4), July 25 (R. E. Scott). Dungeness. one at light in 1955 on September 10 (E. Philp); exceptionally late date (C.-H.).

*D. pudibunda* L.

p. 52—

Dungeness (div. 15), one, June 14, 1962, two, May 18-19, 1964 (R. E. Scott). F. Wacher (*Trans. E. Kent nat. Hist. Soc., 1872*: 33) exhibited larvae of the "Hop-dog" [from Canterbury district]. Ab. *concolor* Stdgr. ♂ taken by W. V. D. Bolt. Goudhurst. 1956 (C.-H.).*L. salicis* L.

p. 57:

line 8 from top—for "calix" read: and *Salix*.

p. 58—

Goudhurst (div. 13), two at light, 1957 (W. V. D. Bolt).

*L. monacha* L.

p. 58—

R. F. Birchenough states he never reported it from Hayes. Therefore in line 4 from bottom—delete "and Hayes".

p. 59—

Hoads Wood (div. 11), several, August 2, 1963 (R. G. Chatelain). Goudhurst (div. 13), not uncommon at light (W. V. D. Bolt). Sandgate (div. 16), one, 1961 (N. Reay-Jones).

*M. neustria* L.

p. 60—

A vast concourse appeared in the Sittingbourne and Faversham areas (div. 7) in 1907 on apple and plum and then descended and

attacked the cherry trees; "to show the magnitude of the attack, twenty to thirty bushels of caterpillars have been collected and killed" (R. Mercer, in Theobald, *J. S.-E. Agric. College, Wye*, 1908 (17): 92). Wye (div. 12), apple and pear defoliated (Theobald, *J. S.-E. Agric. College, Wye*, 1902 (11): 51).

*T. crataegi* L.

p. 62—

The species is apparently extinct in v.-c. 16.

Willesborough (div. 12), September 9, 1964 (W. L. Rudland). Orlestone Woods, several larvae, 1961 (M. Singleton); five imagines at m.v.l. in Faggs Wood, September 3, 1964 (E. A. Sadler).

*P. populi* L.

p. 64—

Minster (div. 4), one, November 30, 1924 (W. E. Busbridge, *Diary*). Goudhurst (div. 13), common at light (W. V. D. Bolt, *pers. comm.*, 1961). Boulderwell, near Dungeness (div. 15), January 13 ( $\delta$ ), 15 ( $\delta$ ), 1966 (R. E. Scott).

*E. lanestris* L.

p. 64—

This species has not been observed in the County to my knowledge since 1951 (C.-H.). Chattenden (div. 6a), "I found one colony of the larva of this insect on blackthorn" (Crozier, *Nat. Hist. Rev.*, 5: 128). [F. O. Waller said it was very common on sloe and damson (at Ulcombe near Maidstone (div. 11)) (Theobald, *J. S.-E. Agric. College, Wye*, 1910 (19): 92). Query correct determination? (C.-H.)]

*L. quercus* L.

p. 65—

Sevenoaks Weald (div. 11), larvae February 22, 24, 1959, imagines emerged July 26, August 7, 1960 (E. A. Sadler). Dungeness (div. 15), 1962 (2); 1963 (9); 1964, July 18-August 7 (30), with max. (6) on July 25 (R. E. Scott).

*L. trifolii* Schiff.

p. 66—

D. S. Fletcher (*in litt.*) points out that according to the rules of zoological nomenclature it should be *flava* Chalmers-Hunt. Therefore in line 15 from top—for "**flava** Tutt" read: **flava** C.-H.

p. 67—

Dungeness (div. 15), August 9-October 11, 1962 (about 12); August 5-September 14, 1963 (6); August 2-29, 1964 (37), with max. (8) on August 26 (R. E. Scott). At meeting of Ent. Soc. London, December 2, 1872, F. Bond exhibited "a fine new British species of Inchneumonidae (*Anomalon fasciatum*)", bred by R. Mitford from larva from Romsey (sic) [Romney Marsh] (*Ent. mon. Mag.*, 9: 200).

Line 15 from top—delete "bird warden".

*M. rubi* L.

p. 68—

Sheppey (div. 2), about 6  $\delta\delta$ , flying at Warden Point, June 22, 1955; Dungeness (div. 15), "on 12th October 1955, a party of migrant Jays arrived and were seen to feed on many of the fox moth larvae that were sunning themselves on the shingle there" (E. Philp, *in litt.*).

R. F. Birchenough states he never reported it from W. Wickham, Hayes, and Keston. Therefore delete accordingly in lines 21 and 22

from bottom.

*P. potatoria* L.

p. 69—

An interesting aspect of the variation is presented by B. K. West (*pers. comm.*) who states that he has bred many *potatoria* from the marshes about Dartford and Higham (both in div. 2), and that every ♀ resulting conformed to typical coloration, but that all his ♀♀ of *lutescens* coloration come from E. Kent.

*E. versicolora* L.

p. 72—

Two in Hope Dept., Oxford, labelled "Kent 1868" (R. F. Bretherton, *in litt.*).

*S. pavonia* L.

p. 74—

Headcorn (div. 11). ♂, "caught in an exhausted condition in a hop garden in May 1961—by a housewife" (M. Singleton).

First Record, 1832: Kent (Rennie, *Conspectus*, 36), replaces that given.

*D. binaria* Hufn.

p. 74—

Sandgate (div. 16). 1960 (3) (N. Reay-Jones).

*D. cultraria* F.

p. 75—

Sevenoaks Weald (div. 11), one, September 10, 1960 (E. A. Sadler).

*D. lacertinaria* L.

pp. 76-77—

Goudhurst (div. 13), common (W. V. D. Bolt, *pers. comm.*, 1961).

Sandgate (div. 16). 1960 (2) (N. Reay-Jones).

*C. glaucata* Scop.

p. 77—

First Record, 1858: Chatham district, "several specimens occurred" (Crozier, *Nat. Hist. Rev.*, 5: 128), replaces that given.

*N. cucullatella* L.

p. 77—

E. Malling (div. 11), larvae feeding not uncommonly in 1939 on Myrobalan (Massee, *Rpt. E. Malling Res. Stn.*, 1939: 70).

*N. albula* Schiff.

p. 79—

Dungeness (div. 15), July 17, 1964 (9) (R. G. Chatelain); August 4 (1), 6 (3), 1965 (C.-H.). Greatstone. July 21, 1963 (1) (C.-H.).

*C. confusalis* H.-S.

p. 80—

Tutt (*Ent. Rec.*, 20: 213) records that on July 3, 1908, he received some half-grown larvae from Mr. Crocker, "collected just previously in the Chatham district. They were at the time feeding on oak".

*N. mundana* L.

p. 81—

Goudhurst (div. 13), one at light, 1958 (W. V. D. Bolt).

p. 81—

E. Kent [Reculver (div. 4)] (Battley, *Trans. E. Kent nat. Hist. Soc.*,

*C. senex* Hübn.

1904: 35).



**ERRATA—page (360)**

Goudhurst (div. 13), one at light, 1958 (W. V. D. Bolt).

*C. senex* Hübn.

p. 81—

E. Kent [Reculver (div. 4)] (Battley, *Trans. E. Kent nat. Hist. Soc.*, 1904: 35).

*M. miniata* Forst.

p. 82—

Farningham Wood (div. 1), many, very fresh, July 27, 1962 (R. G. Chatelain). Meopham (div. 6), 1959; Fairseat, 1960 (J. Ellerton). Line 8 from bottom—for “Reiden” read: Reinden.

*S. irrorella* L.

p. 83—

Dungeness (div. 15), July 24, 1962 (1), July 26, 1963 (1) (R. E. Scott); July 18, 1963 (1) (C.-H.).

*C. mesomella* L.

p. 84—

Chatham district (div. 6a)\* (Crozier, *Nat. Hist. Rev.*, 5: 128). Willesborough (div. 12), 1957 (1) (W. L. Rudland). Goudhurst (div. 13), 1956 (2) (W. V. D. Bolt). Tenterden (div. 14), 1960 (C. G. Orpin).

*L. quadra* L.

pp. 85-86—

N.d.: Ramsgate, one, in Hope Dept., Oxford (R. F. Bretherton). 1958: Goudhurst (div. 13), ♀; at light, July, laid ova which were sterile (W. V. D. Bolt). 1962: Otford (div. 6), one (W. B. L. Manley). 1963: Willesborough (div. 12), one, July 15 (W. L. Rudland); Ham Street, one, July, taken by B. F. Skinner and C. G. Bruce (R. G. Chatelain). 1964: Bromley (div. 1), one, July 16 (D. R. M. Long); Ickham (div. 4), July 17 (♂), 27 (♂) (D. G. Marsh); Dover (div. 8), July (4 ♂♂) (G. H. Youden). 1965: St. Mary Cray (div. 1), ♀, in m.v. trap, August 13 (R. G. Chatelain).

*E. deplana* Esp.

p. 86—

High Elms, Farnborough (div. 5), two at m.v.l.. August 2, 1962 (B. F. Skinner). Westwell (div. 7), ♀, August 5, 1952, taken by E. Scott (C.-H. coll.); Kings Wood, Challock, fullgrown larva which I beat from yew, June 9, produced an imago, July 2, 1963 (C.-H.).

Line 20 down—for “months” read: moths.

*E. griseola* Hübn.

p. 86:

lines 6-7 up—delete “Westwell, one, August 5, 1952 (E. Scott)”. This refers to *E. deplana* (q.v.).

p. 87—

Chatham district (div. 6a)\*, one (Crozier, *Nat. Hist. Review*, 5: 128). Goudhurst (div. 13), one at light, 1958 (W. V. D. Bolt). Tenterden (div. 14), 1960 (C. G. Orpin).

First Record, 1829: *Lithosia flava*, “taken near Birch-wood and at Darenth” (Stephens, *Haust.*, 2: 95), replaces that given.

*E. lurideola* Zinck.

p. 87—

Dungeness (div. 15), 1963 (30) (R. E. Scott).

*E. complana* L.

p. 88—

St. Mary Cray (div. 1), one, July 27, 1964 (R. G. Chatelain); Bromley, 1963 (3), 1964, (2), 1965 (3), 1966 (none) (D. R. M. Long). Seal Chart (div. 10), eight at dusk, July 31, 1938 (W. E. Busbridge, *Diary*). Sevenoaks Weald (div. 11), one, July 23, 1960 (E. A. Sadler). Goudhurst (div. 13), not uncommon (W. V. D. Bolt, *pers. comm.*, 1961). Woodchurch (div. 14), one, August 5, 1899 (Stockwell, *Diary*).

*E. pygmaeola* Doubl. ssp. *pallifrons* Zell.

p. 90—

Dungeness (div. 15).—1963: July 22-August 9 (31) with max. (10) on July 24; 1964: July 7-August 3 (84) with max. (30) on July 15; Boulderwell, July 16 (2), 17 (1), 1966 (R. E. Scott); S. Wakely and I saw it swarming about 1 a.m. on July 23, 1963, at C. G. Bruce's m.v. light near the level crossing, estimating the numbers at from some 200-300 and as quite exceptional (C.-H.).

Line 15 up—for "otites" read: *nutans*.

*E. caniola* Hüb.

p. 91:

line 18 down—for "Meldolla" read: Meldola.

*E. sororcula* Hufn.

p. 91—

Chatham district (div. 6a) (Crozier, *Nat. Hist. Review*, 5: 128).

p. 92—

Woolwich Wood (div. 8), one, June 9, 1901 (Stockwell, *Diary*).  
Goudhurst (div. 13), one at light, 1959 (W. V. D. Bolt).

Line 11 down—after "larvae" insert: beaten off oak branches.

*P. muscerda* Hufn.

pp. 92-93—

Fordwich (div. 4), specimen in Hope Dept., Oxford, labelled "Fordwich" (R. F. Bretherton); probably a very old example but nonetheless interesting as showing a probable extension of range up the Stour valley (C.-H.). Lydd Town (div. 15), one at light, August 14, 1965 (D. W. H. ffennell).

*A. rubricollis* L.

p. 93—

Ham Street (div. 12), June 14 (1), 19 (1), 1952 (G. H. Youden); 1962 (de Worms, *Entomologist*, 96: 55). Goudhurst (div. 13), ♂ at light, 1957 (W. V. D. Bolt).

Line 16 up—after "(1908);” insert: Woolwich Wood, one, June 15, 1924.

*C. trituberculana* Bosc

p. 94—

Dungeness (div. 15), one, July 17, 1964 (R. G. Chatelain).

*U. pulchella* L.

p. 97—

Some remarkable aberrations were reared from the Westerham *pulchella* taken by R. C. Edwards on October 1, 1961, also much information obtained on the life history, etc. (cf. Kettlewell, *Entomologist*, 96: 102-107; idem, *Entomologist*, 97: 169-172, plt. 7. 7a, 7b; Kettlewell and Cadbury, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1962: 37; Edwards, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1962: 29). 1962: East Malling (div. 11), August 7, 2 ♀♀, 1 ♂, taken in m.v. trap by G. A. N. Davis (C.-H. coll.).

Line 10 from top—for "E.R." read: J.

*C. jacobaeae* L.

p. 97—

Dungeness (div. 15), May 27-August 1, 1963 (270), in m.v. trap, with maximum (60) on June 11 (R. E. Scott). In 1902, the larvae "literally swarmed from one end of the Folkestone Warren to the

other. During August hundreds might be gathered in a morning from the two species of ragwort growing there, and at the end of September the bare and leafless stems which everywhere met the eye, attracted the attention of even casual passers-by" (Webb, *Trans. E. Kent. nat. Hist. Soc.*, 1902: 39). Dartford (div. 1), several larvae feeding on *Senecio elegans* in garden, 1962 (B. K. West); Blackheath, two moths, August 2, 1963, a late date (Allen, *Ent. Rec.*, 76: 116).

*S. lubricipeda* L.

p. 98—

Sevenoaks Weald (div. 11), ova found on *Persicaria* (E. A. Sadler).

*S. urticae* Esp.

p. 99—

Crayford (div. 2), one on post, June 12, 1961 (B. K. West). Willesborough (div. 12), two, 1964 (W. L. Rudland). Tenterden (div. 14), 1960 (C. G. Orpin). Dungeness (div. 15), June 14-July 30, 1962 (9), July 2-9, 1963 (2), June 11-29, 1964 (6); Boulderwell, June 6-July 7, 1966 (27), with max. (5) June 12 (R. E. Scott).

*S. lutea* Hufn.

p. 100—

D. R. M. Long counted 104 in his trap at Bromley (div. 1) in 1962, as against 60 in 1961 and 48 in 1963. On the other hand, it appears to have been curiously scarce at Dungeness in 1962, only one appearing at R. E. Scott's trap—on July 8.

*C. mendica* Clerck

p. 102—

Lee (div. 1), common at light, 1952-62 (C. G. Bruce); Orpington, common in m.v. trap, 1963 (R. G. Chatelain). Maidstone district (div. 11), 1952, larvae on apple and plum in orchards (Massee, *Rpt. E. Malling Res. Stn.*, 1952: 147); Loose, ♂, at light, May 5, 1956 (E. Philp). Cranbrook (div. 14), 1961 (C. G. Orpin). Dungeness (div. 15), June 4, 1963 (1), May 17-26, 1964 (3) (R. E. Scott).

*D. sannio* L.

p. 103—

Blackheath (div. 1), ♂♂ "used to be very abundant on Blackheath, among the furze and fern, twenty years ago, but we have not seen it there since . . ." (Newman, *Br. Moths* (1869), 32). Ashford (div. 12), June 7, 1951 (C. G. Bruce). Dungeness (div. 15), one in m.v. trap, June 28, 1963 (R. E. Scott).

*P. fuliginosa* L.

p. 105—

Sidcup (div. 1), larvae on broom and *Senecio*, September 28-October 26, 1924 (Kidner, *Diary*). Deal (div. 8)\* (Morris, *Proc. S. Lond. ent. nat. Hist. Soc.*, 1961: 75). Sevenoaks Weald (div. 11), three, July 29-August 8, 1960 (E. A. Sadler). Chilmington (div. 12), about 50 larvae on a rubbish dump, many on *Ballota nigra*, October 12, 1963 (S. Wakely); Ashford, June 7, 1951 (C. G. Bruce); Willesborough, July 9-August 6, 1957 (13), August 7-29, 1958 (5), August 3-12, 1963 (3♂♂, 1♀), July 27-August 16, 1964 (4) (W. L. Rudland). Dungeness (div. 15), August 18, 1962 (1), June 28, 1963 (1) (R. E. Scott).

*P. plantaginis* L.

p. 107—

Poulton (div. 8), one, June 18, 1899 (Stockwell, *Diary*). It is now 20 years since this species was last seen in Kent (C.-H.).

*A. caja* L.

p. 108—

Blackheath (div. 1), larvae on Zonal Pelargoniums (Theobald, *J.S.-E. Agric. Coll. (Wye)*, 1907 (16) 155). Folkestone (div. 16), two young larvae on *Plantago coronopus*, April 2, 1966 (C.-H.).  
line 6 down—for "Bxley" read: Bexley.

*P. dominula* L.

p. 113—

First Record, 1748: "The Catterpillars (*sic*) . . . were found on the Hound's Tongue (b), the twentieth of April at Charlton in Kent" (Dutfield, *Natural History of British Moths and Butterflies*, facing plt. 6). This replaces the first record given.

*A. polyodon* Clerck

p. 114—

line 15 down—for "**Actinotis**" read **Actinotia**.

*E. nigricans* L.

p. 116—

Greatstone (div. 15), larvae excavated from sandhills, May 25, imago reared July 26, 1962 (R. F. Birchenough). Ab. *marshallana* Westw. was described from a Charing specimen (cf. Humphreys and Westwood, *Br. Moths*, 1: 123).

*E. obelisca* Schiff.

p. 118—

The footnote on this page refers to this species and not to *A. segetum*.

*A. segetum* Schiff.

p. 119—

Kent [Wye district], larvae on potatoes "have burrowed into the tubers to a disastrous extent" (Theobald, *J.S.-E. Agr. Coll. (Wye)*, 1902 (11) 52).

*A. vestigialis* Hufn.

p. 120—

Worth (div. 4), August 29, 1964 (T. W. Harman). Dungeness (div. 15), July 1 (1), 16 (1) 1964 (R. E. Scott).

*A. clavis* Hufn.

p. 121—

Tenterden (div. 14), 1960 (C. G. Orpin). Dungeness (div. 15), July 4-16, 1963 (11) (R. E. Scott).

*A. denticulatus* Haw.

p. 123—

Dungeness (div. 15), May 20-June 29, 1963 (1200), with maximum (275) on June 4; May 13-June 24, 1964 (1992), with maximum (207) on May 30 (R. E. Scott).

*A. exclamationis* L.

p. 124—

Kent [Wye district], larvae burrowed into potato tubers (Theobald, *J.S.-E. Agric. Coll. (Wye)*, 1902 (11) 52).

*A. ripae* Hüb.

p. 126—

Dungeness (div. 15), June 28, 1964 (1) (R. E. Scott).

*L. varia* Vill.

p. 127—

Lee (div. 1), 1953-57 (C. G. Bruce). Dungeness (div. 15), August 4, 1963 (1), July 7-August 7, 1964 (10) (R. E. Scott).

line 18 up—for "Minister" read: Minster.

*P. porphyrea* Schiff.

p. 128—

R. F. Birchenough states the record in de Worms (*Lond. Nat.*, 1954: 74) is erroneous, i.e., he never noted it from Keston or Downe.

*A. lucerneae* L.

p. 129—

Capel-le-Ferne (div. 8), at edge of the Warren, one at m.v.l., July 20, 1965 (R. G. Chatelain). C. Bourdin examined my few Kentish *lucernea*, and pronounced the form as very near ssp. *cataleuca* Boisduval from alps of Switzerland, France and Austria (C.-H.).

*S. ravidus* Schiff.

p. 130—

I have no doubt that in *Naturalist's Notebook*, 1869: 141, Walker's record for Sheppey (div. 2) under "*A. pyrophila*" was based upon misdetermination and should in fact be placed here. He (*loc. cit.*) says: "I beat one from a haystack in 1867, and took one on ivy-bloom, 1868" (C.-H.) Pinden (div. 6), September 1, 1958 (1), November 17, 1963 (1) (*Hare teste de Worms, Lond. Nat.*, 1959: 100, 1964: 32).

*G. augur* F.

p. 131—

Lee (div. 1), 1957 (1) (C. G. Bruce); Orpington, 1964 (4) (R. G. Chatelain). Bromley, 1965 (1), 1966 (2) (D. R. M. Long). Dover (div. 8), 1964 (1), 1965 (1), 1967 (1), (G. H. Youden). Willesborough (div. 12), 1963 (1) (W. L. Rudland). Dungeness (div. 15), July 24, 1963 (1), June 27 (1), July 3 (1), 1964 (R. E. Scott).

*D. brunnea* Schiff.

p. 132—

Ickham (div. 4), one or two only, 1954-59 (D. G. Marsh). West Wood (div. 8), four larvae on birch, May 25, 1933, reared; Ham Street (div. 12), seven larvae on sallow, April 21, 1934, reared; New Inn Green (div. 16), two larvae on blackthorn, 1928, reared (A. M. Morley). R. F. Birchenough states the record in de Worms (*Lond. Nat.*, 1954: 78) is erroneous, i.e., he never noted it from Keston.

*D. mendica* F.

p. 132—

Ham Street (div. 12), larvae on bramble and sallow, moths reared (A. M. Morley). Dungeness (div. 15), 1957 (C. R. Haxby, teste A. M. Morley); 1964 (7) (R. E. Scott). R. E. Birchenough states the record in de Worms (*Lond. Nat.*, 1954: 78) is erroneous, i.e. he never noted it from Keston or Downe.

line 20 up—for "Knipe (1961)" read: Knipe (1916).

*D. rubi* View.

p. 133—

The records suggest this is native in Kent (C.-H.).

*A. agathina* Dup.

p. 134—

Farnborough (div. 1), rare (Hill and Mellon, *Macro-Lepidoptera of the Bromley District*, 21). Ham Street (div. 12), a larva, June 3, 1958 (A. M. Morley).*A. glareosa* Esp.

p. 135—

line 8 up—for "October" read September.

p. 136—

Dungeness (div. 15), one, September 22, 1935 (Beckwith Whitehouse MS.); one, September 25, 1964 (T. W. Harman).

line 15 down—for "1962" read: 1961.

*A. castanea* Esp.

p. 136—

Long Rope, Ham Street (div. 12), ♀ taken by me at sugar, September 3, 1949 (C.-H.).

*A. baja* Schiff.

p. 137—

Dungeness, 1963 (1), 1964 (2) (R. E. Scott).

*A. ditrapezium* Schiff.

p. 138—

Bromley (div. 1), four in m.v. trap, 1964, the first on June 29, with max. (2) on July 19; 1965 (7), the first on June 26; 1966 (17), with max. (4) July 8 and 11; 1967 (none) (D. R. M. Long). Crockham Hill (div. 10), larva on birch, April 30, 1949, imago, reared (C. H. Dixon). Willesborough (div. 12), July 6 (1), 1957, July 21 (1), 22 (1), 1963, July 30 (1), August 2 (1), 1964 (W. L. Rudland).

*A. triangulum* Hufn.

p. 139—

Chelsfield (div. 5), larvae on elm, 1964; Perry Street (div. 6), larvae on ash, late April 1964 (R. G. Chatelain).

*A. stigmatica* Haw.

p. 139—

Ashford, 1903 (Jeffrey, *Trans. E. Kent nat. Hist. Soc.*, 1903: 25). Orpington (div. 1), 1957 (L. W. Siggs).*A. sexstrigata* Haw.

p. 140—

Lee (div. 1), 1960 (C. G. Bruce); Bromley, 1962 (3), 1963 (2)), 1964 (1), 1966 (9) (D. R. M. Long). Kearsney (div. 8), one at flowers, 1901 (Stockwell, *Diary*). Tenterden (div. 14) (C. G. Orpin). Dungeness (div. 15), 1963 (3) (R. E. Scott).*A. xanthographa* Schiff.

p. 141—

West Wickham, ♀, June 19, 1959† (R. F. Birchenough); an unusually early date (C.-H.).

*A. prasina* Schiff.

p. 142—

Willesborough (div. 12), one, June 22, 1957 (W. L. Rudland). Dover (div. 8), July 9, 1963, in m.v. trap (G. H. Youden).

*E. occulta* L.

p. 143—

Bromley (div. 1), one in m.v. trap, August 16, 1964 (D. R. M. Long). Willesborough (div. 12), one, July 25, 1963 (M. Singleton); one in m.v. trap, August 14, 1964 (W. L. Rudland).

*C. rubricosa* Schiff.

p. 143—

Broad Oak (div. 3), full-grown larva feeding on *Lathyrus nissolia* on some waste ground, June 13, 1965, reared 1966 (C.-H.). Ickham (div. 4), 1954-59, fairly common (D. G. Marsh). Willesborough (div. 12), moth noted by W. L. Rudland in 1957 on February 26, a very early date; and another by him there on April 30, 1958 (C.-H.). Dungeness (div. 15), April 30, 1963 (1) (R. E. Scott).

*N. typica* L.

p. 144—

West Wickham (div. 1), in m.v. trap, July 2-30, 1963 (16) (R. F. Birchenough); Bromley, July 11, 1966 (1) (D. R. M. Long); Bexley Heath, 1961 (1); Dartford Marshes (div. 2), one at *Silene cucubalus* bloom, June 30, 1962 (B. K. West). Willesborough (div. 12), July 19 (1), 20 (1), 23 (1), 1963 (W. L. Rudland). Dover (div. 8), 1964 (3), in m.v. trap (G. H. Youden).

p. 145—

line 5 down—for "Seale" read: Seal.

line 27 up—for "L.N." read: L.R.

*E. comes* Hübn.

p. 145—

Bromley (div. 1), larvae on bramble, *Anthriscus sylvestris*, *Urtica dioica* (D. R. M. Long). East Malling (div. 11), ova on undersides of apple, pear, raspberry leaves, larvae reared on these and imagines bred (Massee, *Rpt. E. Malling Res. Stn.*, 1950: 142).

*E. janthina* Schiff.

p. 146—

Bromley (div. 1), larva on *Rumex obtusifolius* (D. R. M. Long).

*E. interjecta* Hübn.

p. 147—

Ickham (div. 4) (D. G. Marsh). Sandgate (div. 16), 1959-61 (4) (N. Reay-Jones). Sheppen (div. 2), "plentiful in lanes at dusk" (Walker, *Naturalist's Notebook*, 1869: 141).

*N. pronuba* L.

p. 148—

Bromley, larva on *Rumex obtusifolius*, *Tussilago farfara*, *Poa annua*, foxglove (D. R. M. Long).

*L. fimbriata* Schreber

p. 149—

Dartford Marshes (div. 2), frequent (B. K. West); Sheppen (Walker, *Naturalist's Notebook*, 1869: 141). Dungeness (div. 15), July 13-August 23, 1963 (30), with max. (11) on August 4, July 14-August 11, 1964 (7) (R. E. Scott).

*P. umbra* Hufn.

p. 150—

Lee (div. 1), 1952 (1), 1957 (1), 1959 (2); Shoreham (div. 6), 1962 (C. G. Bruce), Orpington (div. 1), 1956 (Chatelain, *teste de Worms*, *Lond. Nat.*, 195 : 113). Dungeness, July 5-19, 1963 (7); June 11-July 31, 1964 (25), with max. (6) on July 7 (R. E. Scott).

*H. maritima* Graslin

p. 152—

I showed Manley's specimen to C. Boursin, who remarked that in his opinion it was not referable to the nymotype but to spp. *bulgarica* Drdt. (C.-H.).

*H. peltigera* Schiff.

p. 155—

1946: Westerham (div. 5), July 28 (1); 1958: Westerham (div. 5), June 11 (1) (R. C. Edwards, teste de Worms, *Lond. Nat.*, **1959**: 156). 1964: Dungeness, July 26—September 8 (7) (R. E. Scott); larvae numerous on *S. viscosus*, August 28 (T. W. Harman); larvae numerous, September 19 (R. G. Chatelain); many larvae, October 10 (D. ffennell). 1967: Dungeness, four larvae, August 4 (H. E. Chipperfield).

*H. armigera* Hübn.

p. 156—

1958: Westerham (div. 5), one, September 4 (R. C. Edwards, teste de Worms, *Lond. Nat.*, **1959**: 156). 1962: Pinden (div. 6), one, October 5, by E. J. Hare (de Worms, *Lond. Nat.*, **1964**: 32). 1966: Dover (div. 8), ♂ in m.v. trap, October 13 (Youden, *Ent. Rec.*, **79**: 60).

*M. brassicae* L.

p. 158—

Bromley (div. 1), larva on dahlia (D. R. M. Long); larva on *Chenopodium alba*, October 1963, reared (C.-H.).

*M. persicariae* L.

p. 158—

West Wickham, larva on *Azalia* (C.-H.). Bexley, 1965, larva on elder, dahlia, bracken, Michaelmas daisy, *Centaurea dealbata* (B. K. West). Dungeness, in m.v. trap, June 28-July 18, 1964 (5) (R. E. Scott).

line 16 down—for "M." read: **Melanchra**.

*P. hepatica* Clerck

p. 159—

Priory Wood (div. 16), June 19, 1965 (R. G. Chatelain).

*P. nitens* Haw.

p. 159—

Orpington (div. 1), 1956 (L. W. Siggs).

*P. nebulosa* Hufn.

p. 160—

Ickham (div. 4), 1954-59, one or two only (D. G. Marsh).

*P. sagittigera* Hufn.

p. 161—

One, "Eynsford, Kent, 5.vi.1910"; one, "Upper Halling, W. Crocker, 8.vi.1911" (both in div. 6) (RCK).

line 3 down—for "P." read: **Pachetra**.

*C. pisi* L.

p. 163—

A ♂ taken by G. A. N. Davis, Aylesford (div. 11), June 17, 1956, and presented to me by the captor, has five wings (two left hind-wings) (C.-H.). Tunbridge Wells (div. 13), larva on *Stellaria graminea* (Stainton, *Ent. mon. Mag.*, **18**: 141).

*H. nana* Hufn.

p. 163—

Scott (*Ent. Rec.*, 77: 37-39) compares results from m.v. trapping at Dungeness in 1962-64, of this species with *H. w-latinum* Hufn., *H. bicolorata* Hufn., *H. albimacula* Borkh., *H. conspersa* Schiff., and *H. lepida* Esp.

*H. trifolii* Hufn.

p. 164—

Massee (*Rpt. E. Malling Res. Stn.*, 1947: 137) states that at Teynham (div. 7), larvae were found feeding on apple fruit still hanging on trees, and that change of diet was owing to clearance of *Chenopodium alba* from under trees before picking started.

*H. w-latinum* Hufn.

p. 165—

see *H. nana* (above).

*H. suasa* Schiff.

p. 166—

Aylesford (div. 11), 1951 (1), 1953 (4). June 17, 1956 (1); E. Malling, 1951 (G. A. N. Davis). Dungeness (div. 15), August 29, 1963 (1), June 13, 1964 (1) (R. E. Scott). Preston (div. 4), several, August 22, 1965 (C.-H.).

*H. thalassina* Hufn.

p. 167—

Dungeness (div. 15), one, June 19, 1964† (R. E. Scott); is presumably casual (C.-H.).

*H. contigua* Schiff.

p. 168—

Meopham (div. 6), one, July 8, 1961† (J. Ellerton). Aylesford, July 12, 1955 (1), July 2, 1956 (1), July 11 (1), 14 (1), 1957; taken in m.v. trap by G. A. N. Davis (C.-H. coll.).

*H. bicolorata* Hufn.

p. 170—

see *H. nana* (above).

*H. albimacula* Borkh.

p. 170—

see *H. nana* (above).

*H. conspersa* Schiff.

p. 171—

see *H. nana* (above). Shorne Ridgeway (div. 6a), one, July 25, 1964 (E. E. J. Trundell).

*H. comptata* Schiff.

p. 172—

St. Mary Cray (div. 1), ♀ in m.v. trap, September 14, 1964 (R. G. Chatelain); Farningham Wood, one at *Lychnis dioica* bloom, July 10, 1967 (B. K. West). Westwell (div. 7), July 13, 1962 (E. Scott). Hothfield (div. 12), larva on *Dianthus*, August 1, 1963 (E. Scott); Willesborough, June 22-July 22, 1963 (4), June 10-29, 1964 (5) (W. L. Rudland).

line 4 up—for "Ashfield" read: Ashford.

*H. lepida* Esp.

p. 174—

line 17 up—for "carophaga" read: carpophaga.

p. 175—

see *H. nana* (above). Pinden (div. 6), one, "all white". taken by E.

J. Hare (de Worms, *Lond. Nat.*, **1964**: 32).

*H. albicolon* Hübn.

p. 176—

Dungeness, 1963 (1), 1964 (1) (R. E. Scott).

*H. reticulata* Vill.

p. 177—

Scott (1964, 19) gives *Saponaria officinalis* as the foodplant, but in a letter to me subsequently, invalidates this (C.-H.). Ashford, 1903 (Jeffrey, *Trans. E. Kent. nat. Hist. Soc.*, **1903**: 25). Orpington (div. 1), 1953 (L. W. Siggs); St. Mary Cray, 1955 (R. G. Chatelain).

*T. cespitis* Schiff.

p. 179—

Ovenden (*Ent. Rec.*, **16**: 269) remarks on the larval habits of this species [in the Rochester district]. Dungeness, August 31-September 24, 1963 (78), with max. (14) on September 15; August 28-September 23, 1964 (118), with max. (19) on September 7 (R. E. Scott).

*C. graminis* L.

p. 179—

Wrotham (div. 6), 1965 (1) (T. Peet). Willesborough (div. 12), 1957 (9), 1958 (1) (W. L. Rudland). Dungeness (div. 15), July 25-August 23, 1964 (5) (R. E. Scott). Dartford Heath, 1967 (D. O'Keeffe).

*O. populeti* F.

p. 184—

Broad Street (div. 7), at light, April 4, 1955 (1) (E. Philp). Ham Street (div. 12), June 2, 1965, larvae quite numerous on larger aspens (R. G. Chatelain).

*O. advena* Schiff.

p. 186—

Bromley (div. 1), two in 1965, the second on May, 27; 1966 (3); 1967 (1) (D. R. M. Long); Orpington, April 27, 1966 (1), in m.v. trap (I. A. Watkinson).

*P. flammea* Schiff.

p. 187—

St. Mary Cray (div. 1), 1964 (1) (R. G. Chatelain); Bromley, 1960 (3), 1961 (1), 1962 (4), 1964 (4), 1965 (12), 1966 (5) (D. R. M. Long). Willesborough (div. 12), April 18, 1958 (W. L. Rudland). Jeffrey (*Trans. E. Kent. nat. Hist. Soc.*, **1910**: 10) records finding on this species in Kent, the fungus *Isaria farinosa*, and gives details.

*L. favicolor* Barr.

p. 189—

Pinden (div. 6), July 16, 1956 (1), July 10, 1958 (1), July 1959 (1) (Hare, teste de Worms, *Lond. Nat.*, **1959**: 108). Doubtless casuals (C.-H.).

*L. pudorina* Schiff.

p. 191—

Willesborough (div. 12), one, June 17, 1957 (W. L. Rudland). In addition to marshes and heaths, this is also in Kent a species of chalk slopes (C.-H.).

line 7 down—for "June 18" read: July 19.

*L. obsoleta* Hübn.

p. 191—

Preston Marshes (div. 4), a larva on *Phragmites communis*, August 22, 1965 (C.-H.).

*L. litoralis* Curt.

p. 192—

Dungeness (div. 15), July 31, 1964 (1) (R. E. Scott). Lydd Town, 1965 (D. W. H. ffennell).

*L. comma* L.

p. 192—

line 21 up—for "1924" read: 1928.

*L. uinpnuncta* Haw.

p. 192—

R. A. French (*in litt.*) states that despite the discrepancy, both records in *Entomologist*, **98**: 76, refer to the same capture, i.e., Hayward's at Dungeness, September 21, 1963. 1964: Dungeness (div. 15), September 26 (1) (T. W. Harman); October 5 (1) (R. E. Scott). 1966: Otford (div. 6) in m.v. trap, September 11 (1) (W. B. L. Manley). Dover (div. 8), in m.v. trap, September 8 (♂), 20 (♂) (G. H. Youden). Ashford (div. 12), in m.v. trap, September 18 (1) (P. Cue).

*L. albipuncta* Schiff.

p. 197—

1967: Folkestone (div. 16), one, July 21 (A. M. Morley).

*R. lutosa* Hübn.

p. 199—

Willesborough (div. 12), 1957 (3), 1963 (11), 1964 (1) (W. L. Rudland).

*A. pygmina* Haw.

p. 200—

Willesborough (div. 12), August 27-September 15, 1957 (3), August 31-September 29, 1963 (5), September 23-24, 1964 (2) (W. L. Rudland). Dungeness (div. 15), August 20-September 4, 1963 (3), August 14-28, 1964 (5) (R. E. Scott).

line 32 up—for "Fen" read: Fenn.

*A. fluxa* Hübn.

p. 201—

Dungeness, on the night of August 6, 1965, under suitable conditions, I examined unsuccessfully for this species, a hundred or so flower-heads of *Calamagrostis epigeios* (C.-H.).

line 22 up—for "two, including one" read: ♂.

*A. morrisii* Dale

p. 201—

Apparently *Festuca arundinacea* is the sole pabulum, since Tugwell (*Entomologist*, **11**: 252) seemingly misdetermined the plant from which Nicholls' bred the species (cf. Knaggs, *Entomologist*, **30**: 318), as *Arrhenatherum elatius*. And it is also noteworthy that G. M. Haggett, who worked unremittingly for the larva, categorically states he found it only on *F. arundinacea*.

*A. phragmitidis* Hübn.

p. 203—

Willesborough (div. 12), August 1-4, 1963 (2) (W. L. Rudland); Brook (Duffield, *fide* Scott (1964: 20)), Dungeness (div. 15), August 3-6, 1964 (2) (R. E. Scott). Dover (div. 8), July 31 (1), August 6 (1), 1951, July 29, 1963 (1); all in m.v. trap (G. H. Youden).

*N. sparganii* Esp.

p. 204—

East Kent [Reculver (div. 4)] (Battleby, *Trans. E. Kent nat. Hist.*

*Soc.*, 1904: 35). Dover (div. 8), August 28, 1958 (1), in m.v. trap (G. H. Youden).

*N. geminipuncta* Haw.

p. 208—

[Reculver (div. 4)], very common (Battley, *Trans. E. Kent nat. Hist. Soc.*, 1904: 35). Dungeness (div. 15), August 11 (1), 21 (1), 1964; Boulderwell, August 12-22, 1966 (4) (R. E. Scott). First Record, 1874: Cliffe (Fenn, *Diary*), replaces, that given.

*N. dissoluta* Treits.

p. 207—

Bromley (div. 1), one in m.v. trap, August 3, 1964 (D. R. M. Long). Preston (div. 4), August 22, 1965 (2) (C.-H.). Greatstone (div. 15), July 20, 1963 (1) (C.-H. & Wakely, *Ent. Rec.*, 76: 94). Dungeness, August 6, 1964 (2); Boulderwell, August 21, 1966 (1) (R. E. Scott); Lydd Town, August 1965 (D. W. H. ffennell). First Record, 1904: East Kent [Reculver (div. 4)] "N. neurica and var. *dissoluta*" (Battley, *Trans. E. Kent nat. Hist. Soc.*, 1904: 35), replaces that given.

*C. rufa* Haw.

p. 209—

Willesborough (div. 12), 1955 (1), 1957 (1), 1964 (1) (W. L. Rudland). Dungeness (div. 15), July 17, 1964 (2) (R. G. Chatelain); August 6, 1964 (R. E. Scott); August 28, 1964 (T. W. Harman). Bromley (div. 1), July 20, 1967 (1) (D. R. M. Long).

*C. maritima* Tausch.

p. 209—

Battley (*Trans. E. Kent nat. Hist. Soc.*, 1904: 35) records it from East Kent [Reculver (div. 4)].

*C. ambigua* Schiff.

p. 212—

line 13 up—delete: "Sandwich, September 6 (A. J. L. Bowes)".

p. 213—

Willesborough (div. 12), 1957 (6), 1958 (2), 1963 (3), 1964 (1) (W. L. Rudland). Dungeness (div. 15), 1964 (6), 1967 (1) (R. E. Scott). Bromley (div. 1), 1965 (1), 1966 (5), the first on June 5; 1967 (3) (D. R. M. Long).

*L. exigua* Hübn.

p. 216—

Willesborough, June 19, 1958 (1) (W. L. Rudland). Boulderwell (div. 15), June 2 (1), August 11 (1), 12 (1), 16 (1), 21 (1), 1966 (R. E. Scott). Dover (div. 8), September 11, 1966 (♂) (Youden, *Ent. Rec.*, 79: 60).

*D. scrabriuscula* L.

p. 217—

Dungeness (div. 15), July 20, 1964 (1) (R. E. Scott); is presumably casual (C.-H.)

*P. littoralis* Boisd.

p. 218—

Chatelain (*Proc. S. Lond. ent. nat. Hist. Soc.*, 1964: 16) states the early stages were imported with chrysanthemum cuttings from the

Canary Is., in 1963.

line 7 down—after “article is” insert: by.

*A. sublustris* Esp.

p. 218—

Wrotham (div. 6), July 20, 1965 (2) (T. Peet).

*A. zollikoferi* Freyer

p. 220—

line 5 down—for “transversing” read: traversing.

*A. crenata* Hufn.

p. 223—

Bromley (div. 1), one, June 6, 1965, none in 1963-64, or 1966-67 (D. R. M. Long). Willesborough (div. 12), June 3-27, 1963 (3), June 8, 1964 (1) (W. L. Rudland).

*A. unanimis* Hüb.

p. 224—

Willesborough (div. 12), May 25 (1), June 1 (1), 1964 (W. L. Rudland). Dover (div. 8), June 13 (1), 19 (2), 1956, June 14, 1960 (1), June 11 (1), 20 (1), 22 (3), 23 (1), 1962, June 12 (1), 15 (1), 1963, June 20, 1964 (1), June 19, 1965 (2), all in m.v. trap (G. H. Youden).

*A. oblonga* Haw.

p. 225—

Pinden (div. 6), one, August 22, 1963 (E. J. Hare, *fide de Worms, Lond. Nat., 1964*: 2). Dungeness (div. 15), July 23, 1964 (1) (R. E. Scott); Greatstone, July 21, 1963 (1) (C.-H. & Wakely, *Ent. Rec.*, 76: 94).

*A. furva* Schiff.

p. 226—

Capel-ie-Ferne (div. 8), at the edge of the Warren, one at m.v.l., July 20, 1965 (R. G. Chatelain).

*A. scolopacina* Esp.

p. 227—

West Wickham (div. 1), 1966 (C.-H.); Bromley, 1964 (14), with max. (3) on August 2; 1965 (3); 1966 (1) (D. R. M. Long); Orpington, 1964 (2), 1965 (3) (I. A. Watkinson). Westerham (div. 5), 1958 (R. C. Edwards, *teste de Worms, Lond. Nat., 1959*: 106).

*A. ophiogramma* Esp.

p. 228—

Orpington (div. 1), July 21-August 1965 (2) (I. A. Watkinson). Bromley, July 29, 1967 (1) (D. R. M. Long). Lydd Town (div. 15), August 14, 1965 (1) (D. W. H. ffennell). Pinden (div. 6), 1956-57 (Hare, *teste de Worms, Lond. Nat., 1959*: 105).

*A. ypsilon* Schiff.

p. 229—

Bromley (div. 1), July 15, 1965 (1), July 4, 1966 (1) (D. R. M. Long). Dover (div. 8), 1960 (1), 1962 (1), 1963 (2), 1964 (1) (G. H. Youden). Willesborough (div. 12), 1963 (2), 1964 (1) (W. L. Rudland). Pinden (div. 6), 1959 (1) (Hare, *teste de Worms, Lond. Nat., 1959*: 106).

*E. ochroleuca* Schiff.

p. 230—

Dungeness (div. 15), August 6-29, 1964 (5) (R. E. Scott). Orpington (div. 1), one at light, August 18, 1966 (P. E. & D. Webb).

*P. fasciuncula* Haw.

p. 233—

Dungeness (div. 15), June 5-July 6, 1964 (192), with max. (144) on June 13, and max. not exceeding 11 (on June 29) on any other date (R. E. Scott).

*P. minima* Haw.

p. 239—

Bromley (div. 1), 1965 (1), 1966 (1) (D. R. M. Long). Boulderwell (div. 15), June 30, 1966 (1) (R. E. Scott).

*C. leucostigma* Hübn.

p. 240—

Lydd Town (div. 15), August 1965 (D. W. H. ffennell). Pinden (div. 6), July 19, 1957 (1) (Hare, teste de Worms, *Lond. Nat.*, 1959: 107).

*G. petasitis* Doubl.

p. 243—

Westerham (div. 5), September 5, 1948 (1) (R. C. Edwards, teste de Worms, *Lond. Nat.*, 1959: 107). Having seen this specimen, I can testify it is not *petasitis* but an exceptionally large *G. micacea* Esp. (C.H.).

*G. flavago* Schiff.

p. 243—

Syndale (div. 7), larva in stem of *Inula conyza* (H. C. Huggins, *Ent. Rec.*, 78: 167).

*C. pyralina* Schiff.

p. 245—

Bromley (div. 1), 1960 (2), 1961 (1), 1962 (3), 1964 (1) (D. R. M. Long). Ashford (div. 12)\*, 1903, seen for the first time in this district (Jeffrey, *Trans. E. Kent nat. Hist. Soc.*, 1903: 25).

*C. affinis* L.

p. 247—

Lydd Town (div. 15), August 1965 (D. W. H. ffennell).

*E. paleacea* Esp.

p. 250—

Orlestone Woods, Ham Street (div. 12), one worn specimen, August 28, 1964 (de Worms, *Entomologist*, 98: 156).

*Z. subtusa* Schiff.

p. 251—

Dover (div. 8), 1947 (1), 1951 (1), 1954 (1), 1955 (1), 1962 (1), 1964 (1); all in light trap (G. H. Youden).

*A. tragopoginis* Clerck

p. 253—

The records suggest this may be native.

line 10 up—for "tragopogonis" read: *tragopoginis*.

*C. muralis* Forst.

p. 256—

Sheppey (div. 2), occurs "abundantly along the dockyard wall" [at Sheerness] (Walker, *Naturalist's Notebook*, 1869: 141).

line 6 up—for "Welker" read: Walker.

p. 257—

line 8 down—for "records" read: record.

p. 258—

First Record, 1864: Plumstead (Purnell, teste Fenn, *Diary*, 11.i.1864).

replaces that given.

*A. alni* L.

p. 262—

Dover (div. 8), one in m.v. trap, May 28, 1956 (G. H. Youden).

lines 9-10 down—delete the "Winchfield" record, which is Hants.

*A. rumicis* L.

p. 266—

Dover (div. 8), September 5, 1951 (1), May 12, 1952 (1), both in m.v. trap (G. H. Youden). Dartford Heath (div. 1) larva on birch and *Potentilla erecta*. October 6, 1967 (C.-H.).

*S. venosa* Borkh.

p. 268—

Lydd Town (div. 15), one, mid. August, 1965 (D. W. H. ffennell).

*C. asteris* Schiff.

p. 269—

Ashford, 1902 (Jeffrey, *Trans. E. Kent nat. Hist. Soc.*, 1902: 38).

*C. chamomillae* Schiff.

p. 270—

Ashford (div. 12), larvae on *Matricaria* and *Anthemis*, 1902; in 1901, a larva found feeding on carrot in a garden at Ashford (Jeffrey, *Trans. E. Kent nat. Hist. Soc.*, 1902: 38).

*C. gnaphalii* Hübn.

p. 271—

Ashford, 1902, two larvae (Jeffrey, *Trans. E. Kent nat. Hist. Soc.*, 1902: 38).

line 1 down—for "out" read: cut.

*C. absinthii* L.

p. 272—

Dartford (div. 2), larvae on *A. absinthium*, 1967 (B. K. West). Dover (div. 8), July 22 (1), 28 (1), 1963, July 26, 1965 (1), all in m.v. trap (G. H. Youden).

*C. verbasci* L.

p. 273—

Ashford, larvae on *Verbascum lychnitis* (Jeffrey, *Trans. E. Kent nat. Hist. Soc.*, 1902: 38).

*L. semibrunnea* Haw.

p. 275—

Orpington (div. 1), one, at light, April 11, 1962 (P. E. and D. Webb, one, 1965 (I. A. Watkinson, Westerham (div. 5), one, May 11, 1958 (R. C. Edwards, teste de Worms, *Lond. nat.*, 1959: 112).

*L. lamda* F.

p. 277—

The 1875 specimen was recorded as *L. furcifera* Hufn. in error, but this was corrected in *Entomologist*, 9: 191.

*L. ornithopus* Hufn.

p. 278—

line 6 down -- for "ornithopous" read: *ornitopus*.

*X. exsoleta* L.

p. 279—

Pauls Cray (div. 1), in R. G. Sanderman coll. in B.M.N.H., one labelled "Pauls Cray Sept., 1900." (C.-H.)

line 17 down—for "betusta" read: *vetusta*.

*X. vetusta* Hübn.

p. 280—

line 5 down—for “*vestuta*” read: *vetusta*.

*C. lunula* Hufn.

p. 282—

The Dipteron *Eumea hortulata* Mg. (det. A. C. Pont) emerged ex pupa, Dungeness, June 1966 (C.-H.). Dungeness (div. 15), imago on post, June 3, 1965 (R. G. Chatelain); imago at rest on yarrow bloom, August 5, 1967 (H. E. Chipperfield).

*A. australis* Boisd.

p. 287—

Dungeness (div. 15), larvae on “grass and sorrel” (Wakely, *Ent. Rec.*, **79**: 68). Haggett and Wightman (*Proc. S. Lond. ent. nat. Hist. Soc.*, **1964**: 17, plt. 1, fig. 6) exhibited an extreme melanistic, taken Dungeness, 1964, which they considered apparently referable to “ab. (or ssp.) *orientalis* H.-S.”

*E. adusta* Esp.

p. 290—

line 20 up—for “(1963)” read: (1964).

*E. lichenea* Hübn.

p. 291—

Folkestone (div. 16), September 13, 1967 (A. M. Morley).

*P. suspecta* Hübn.

p. 292—

The records suggest this is native in Kent (C.-H.). Petts Wood (div. 1), 1953 (R. G. Chatelain).

*A. flaviginccta* Schiff.

p. 293—

Abbey Wood (div. 1), 1951 (J. Green, *teste* Showler, *Ent. Rec.*, **68**: 166). Orpington, 1962 (1) (P. E. and D. Webb); October 2, 1965 (1) (I. A. Watkinson).

*A. lota* Clerck

p. 297—

line 18 down—for “A.” read: **Agrochola**.

*A. helvola* L.

p. 299—

Westwell (div. 7); Brook (div. 8)\* (Scott, 1964).

*A. xerampelina* Esp.

p. 301—

The records suggest this is native in Kent (C.-H.).

*T. citrago* L.

p. 302—

Sheppey (div. 2) (Walker, *Naturalist's Notebook*, **1869**: 141). Westwell (div. 7) (Scott, 1964).

*C. gilvago* Schiff.

p. 305—

The records suggest this is native in Kent (C.-H.). Sheppey (div. 2) (Walker, *Naturalist's Notebook*, **1869**: 141).

*C. palleago* Hübn.

p. 306—

A. J. Wightman (*in litt.*) points out the name *palleago* Hübn. should

refer to an ab. of *C. ocellaris* Borkh. A re-examination of the material referred to as *palleago* by Wood and South is therefore very desirable, though as yet I have unfortunately been unable positively to locate the present whereabouts of any of these specimens (C.-H.).

*C. ocellaris* Borkh.

p. 306—

Orpington (div. 1), October 1, 1961 (1), at light (I. A. Watkinson); September 8, 1964 (1), at light (P. E. and D. Webb).

*P. bicolorana* Fuessl.

p. 310—

line 8 up—for "Daivs" read: Davis.

*E. trabealis* Scop.

p. 313—

First Record, 1782: "First week July 1782 . . . Taken, The Margate Beauty. Mr. Francillon" (*Diary of the Society of the Entomologists of London, 1780-82*, MS., 66), replaces that given.

*L. fasciana* L.

p. 315—

Bromley (div. 1), 1966 (1) (D. R. M. Long).

*C. fraxini* L.

p. 318—

According to Scott (1964), the moth was taken annually in the Ashford district [Ham Street] from 1957 to 1960 inclusive and was seen there in 1963. If correct, this means the species was observed there year after year for a total of 19 years until it was last seen in 1964 (C.-H.).

*C. sponsa* L.

p. 319—

P. Cue (*in litt.*) states he has never taken *sponsa* in Hoads Wood; thus, the record of this in Scott (1964) should be deleted. The statement in (Scott (1964) that in the Ashford district, it was "common in 1940 over a wide area", is unsupported by the records, and is I suspect erroneous (C.-H.).

*M. lunaris* Schiff.

p. 321—

There are strong indications that fallen oak leaves provide the normal diurnal resting place for this moth, the wing pattern and colouration of which is ideally suited for this purpose. R. P. Demuth (*in litt.*) referring to his diary, writes that at Ham Street, on June 15, 1948, he reckons he saw about 14 *lunaris*, some of which he noted by day in the manner described: "During the day they rest in dead oak leaves in ditches or on the ground and can be walked up". On May 29, 1949, "walked up 1 *lunaris* female during the day from a ditch filled with dead oak leaves . . ."

*C. coryli* L.

p. 324—

Loose (div. 11), May 5, 1956 (1), at light (E. Philp).

*P. festucae* L.

p. 329—

Bromley (div. 1), August 26, 1967 (1) (D. R. M. Long). East Kent [Reculver (div. 4)] (Battley, *Trans. E. Kent nat. Hist. Soc.*, 1904: 35).

Ashford district (div. 12)\*, "emergence of a specimen reported in October 1959" (Scott, 1964).

*U. triplasia* L.

p. 336—

Sheppeney (div. 2) (Walker, *Naturalist's Notebook*, 1869: 141).

*U. tripartita* Hufn.

p. 336—

Sheppeney (div. 2) (Walker, *Naturalist's Notebook*, 1869: 141).

*L. pastinum* Treits.

p. 340—

Orpington (div. 1), 1961 (1), 1962 (1), 1966 (1), all at light (P. E. and D. Webb). Greatstone (div. 15), July 21, 1963 (1) (C.-H. and Wakely, *Ent. Rec.*, 76: 94).

*C. salicalis* Schiff.

p. 342—

Orlestone Woods (div. 12), a few, 1967, by B. K. West and D. W. H. ffennell (C.-H.).

*Z. nemoralis* F.

p. 349—

Greatstone (div. 15), one in m.v. trap, July 21, 1963 (C.-H.).

*L. flexula* Schiff.

p. 352—

Greatstone (div. 15), one, July 21, 1963 (C.-H. and Wakely, *Ent. Rec.*, 76: 94).

## FURTHER ADDITIONS TO VOL. 2

*H. celerio* L.

p. 11—

1868: Sheppeney (div. 2), "taken in a room last year and probably attracted by the light" (Walker, *Naturalist's Notebook*, 1869: 141).

1963: East Malling (div. 11), October 25, in m.v. trap (Massee, *Proc. S. Lond. nat. Hist. Soc.*, 1963: 46)

*H. bifida* Brahm.

p. 18—

Dover (div. 8), ♂ in m.v. trap, June 28, 1958 (G. H. Youden).

*C. ruficornis* Hufn.

p. 25—

Summers (*Proc. S. London, ent. nat. Hist. Soc.*, 1966: 31, plt. 2, fig. 3) exhibited "an unusual male" ab., taken Bromley, May 11, 1965.

It appears to conform to ab. *vivida* Zerny (C.-H.).

*P. gnoma* F.

p. 26—

Barham (div. 8), 1953 (1); Dover, 1951 (1), 1953 (1), 1964 (2), 1965 (1) (G. H. Youden). Greatstone (div. 15), July 16, 1963 (1) (C.-H.).

*L. capucina* L.

p. 32—

Orlestone Woods (div. 12), larva on hornbeam (C.-H., *Proc. S. Lond. ent. nat. Hist. Soc.*, 1967: 24).

*O. carmelita* Esp.

p. 33—

Bromley (div. 1), April 28, 1964 (1) (D. R. M. Long).

*C. curtula* L.

p. 36—

Dover (div. 8), May 25, 1952 (1), in m.v. trap (G. H. Youden).

*T. ocularis* L.

p. 42—

Dover (div. 8), 1962, 1964, 1965 (G. H. Youden). Dungeness (div. 15), 1966 (de Worms, *Entomologist* 100: 97).

*T. fluctuosa* Hübn.

p. 46—

Dover (div. 8), ♂, July 27, 1967 (G. H. Youden). Ham Street (div. 12), 1966 (1) (de Worms, *Entomologist*, 100: 97).

*O. antiqua* L.

p. 50—

Orlestone Woods (div. 12), larva on sallow (C.-H., *Proc. S. Lond. ent. nat. Hist. Soc.*, 1967: 24).

*E. chrysorrhoea* L.

p. 53—

Bromley (div. 1), July 15 (1), 19 (1), 1967 (D. R. M. Long).

*M. neustria* L.

p. 61—

Tenterden (div. 14), larva on hop (C. G. Orpin).

*M. castrensis* L.

p. 62—

First Record, 1782: "First week August 1782 . . . Bred the Sea Wormwood Lackey. 20 of the Caterpillars were taken by Dr. Curtis at the Isle of Sheppey—they remained in chrysalis 30 days" (*Diary of the Society of the Entomologists of London, 1780-82*, MS., 67). This replaces that given.

*E. lanestris* L.

p. 64—

The statement (in *Proc. S. Lond. ent. nat. Hist. Soc.*, 1963: 15) that *lanestris* was seen at Ashford in 1963 does not refer to the species in nature, but to non-Kentish examples being reared there in captivity.

*D. curvatula* Borkh.

p. 76—

This species should be enclosed within square brackets.

*N. albula* Schiff

p. 79—

Dover (div. 8), July 14-22, 1967 (3) (G. H. Youden). Dungeness (div. 15), July 21, 1967 (1) (D. O'Keefe).

*S. irrorella* L.

p. 83—

First Record, 1782: "Last week July, taken the Irorella or Dew Moth, upon the Common opposite the 18 milestone, Erith" (div. 1) (*Diary of the Society of the Entomologists of London, 1780-82*, MS., 67). This replaces that given.

*L. quadra* L.

p. 86—

1963: Dover (div. 8), July 16, 23; Brook, July 8; Dungeness (div. 15), July 18 (French, *Entomologist*, 98: 76). 1966: Dover (div. 8), June 11 (♂) (Youden, *Ent. Rec.*, 79: 60).

*E. deplana* Esp.

p. 86—

The record for Tenterden in Scott (1964) and attributed to me should be deleted. I have never noted it there (C.-H.).

*E. caniola* Hübn.

p. 91—

I have investigated all records for this species in Scott (1964) and find them to be erroneous (C.-H.).

*A. rubricollis* L.

pp. 93-94—

This species was misplaced. It should follow *Nudaria mundana* L. on p. 81.

*C. trituberculana* Bosc

pp. 94-95—

This species was misplaced. It should follow *Celama confusalis* H.-S. on p. 80. Dungeness (div. 15), one at m.v.l., July 21, 1967 (D. O'Keeffe).

*A. pyramidea* L.

p. 253—

I have examples in my coll. from West Wickham (div. 1); Broad Oak (div. 3); and Orlestone Woods (div. 12), that are referable to *pyramidea* as distinct from *A. berbera* Rungs (C.-H.).

***A. berbera* Rungs. Svensson's Copper Underwing.**

Resident, perhaps native. Woods etc.

It is probable that a fair percentage of all so-called *A. pyramidea* from Kent are in fact referable to *A. berbera*. This was originally described (in 1949, *Soc. Sc. Nat. Maroc.* **25-27**: 330, plt. 7, figs 3, 5) as a sub-species of *pyramidea*, but has since been recognised by I. Svensson as specifically distinct; the details of which are expected in a forth-coming paper.

The nymotypical race of *berbera* does not appear to occur in Britain, and a description of the British sub-species is at present in the press. The author, D. S. Fletcher, has been so good as to give me for publication here, the following characters by which our examples of *berbera* may be recognised from those of *pyramidea*:—"Duller brown colour of body and forewing; forewing orbicular spot usually larger and more broadly ringed with buffy-brown or light buff; median band, between vein A1 and inner margin, is usually narrower than in *pyramidea*; discal area between orbicular spot and postmedial fascia is less heavily shaded than in *pyramidea*, the shading not extending as far as the postmedial fascia." The genitalia are very distinct.

As yet, few series have been examined, and the following are the only records of identified Kentish *berbera* at present.

3. Broad Oak, one, July 19, 1946 (C.-H.).
7. Westwell (C. G. M. de Worms).
12. Orlestone Woods, three, July 29, 1946 (C.-H.). Ham Street (C. G. M. de Worms). Ashford, one (P. Cue teste C. G. M. de Worms).
15. Dungeness (C. G. M. de Worms).

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CHALMERS-HUNT  
BUTTERFLIES + MOTH'S  
OF KENT

Vol. 2

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The Index includes Family names, Generic names, and Specific names, with synonyms of Specific names in italic.

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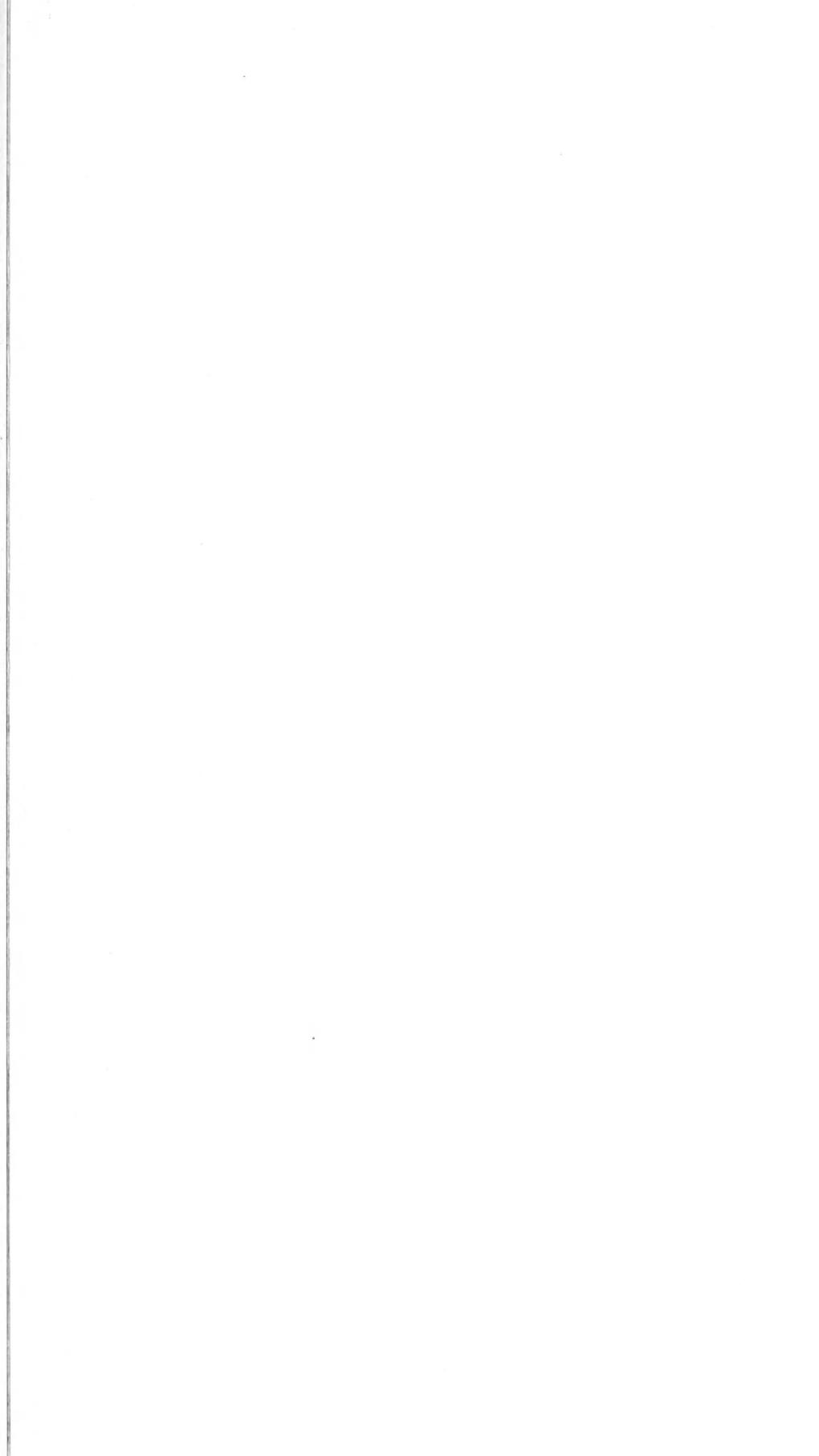
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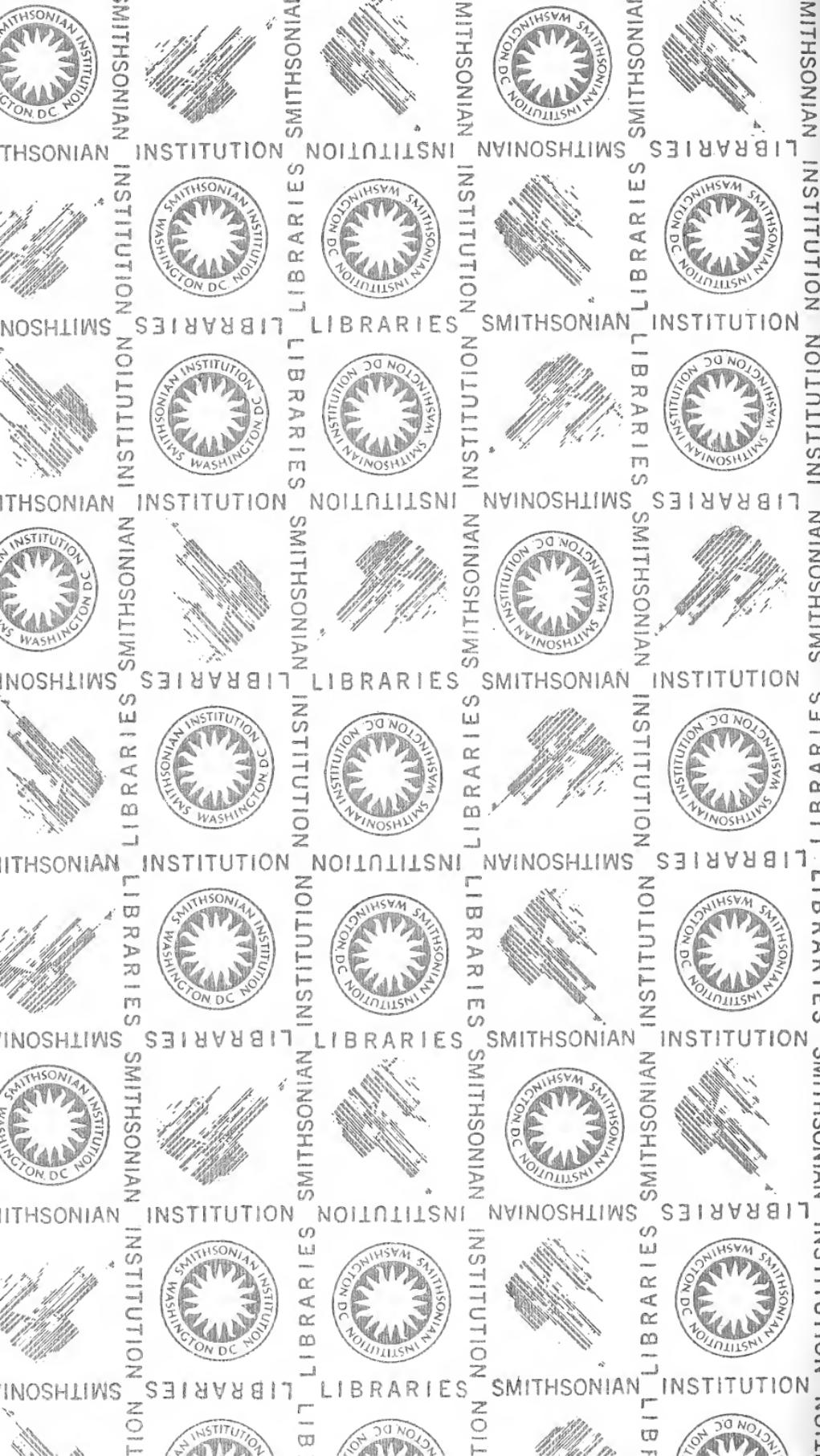
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